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EVOLUTION AND RELIGION

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PEDIGREE OF MAN.

EVOLUTION AND RELIGION

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BY

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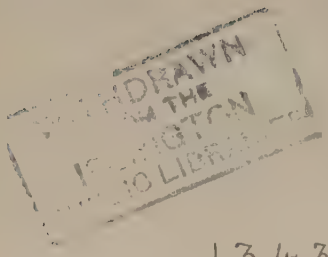

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PREFACE.

I AM afraid I shall lay myself open to the charge of having adopted a very ambitious title for this book; but the size alone is sufficient to convince any one that it is not intended to cover the extensive fields of Evolution and Religion. My object is not to teach evolution, far less theology; but, by placing some of the leading facts of each subject side by side, to call attention to their natural connection.

Through the labours of Wolff, Lamarck, and especially Darwin, belief in creation has given place to the idea of gradual development in the world of life; as had previously been the case in regard to the inorganic world. Since the publication of Darwin's *Origin of Species*, the theory of evolution has invaded every department of thought and enquiry, and has revolutionized men's views upon many of the most important subjects. Scientifically, creation is a word now almost without meaning. The smallest particle of matter, the smallest unit

of force, cannot be created or annihilated; when they disappear from our perception they have but changed their form to reappear in some other form. All human institutions, down to the most trivial custom, every belief and thought, are the outgrowth of previously existing forms. Everywhere throughout the world we see an incessant change in the direction of greater complexity; but nowhere do we find any act of creation, in the old sense.

Under this all-embracing law it was inevitable that theology must sooner or later fall, however powerful might be the human interests involved. Evolutionary thought has conquered all along the line, and is now busily at work in the secret recesses of the mind, with the most vital elements of the Christian religion. Disintegration is rapidly going on and men and women inwardly feel what they have not the courage to avow. This is manifest in the change of method observable in the most intelligent of the religious bodies. Few now dwell upon the personality of the Devil, the eternal torments of Hell, or the pleasures of psalm singing in Heaven; and many are even silent upon the divinity of the founder of Christianity.

Evolutionary thought is gradually transforming the old views of man and his place in Nature; and tending towards the belief that the soul, like the

body, is a physical product, and dependent for its existence upon material organization. This feeling is at present vague and unacknowledged ; but it is deep down in the heart of the age, and gives rise to the intellectual unrest, alternating in hope and fear, which is so characteristic of our day. There is reason to believe that in due course the intellect will shape this feeling into a definite belief and conviction ; and that step by step with such development the social energies will evolve a higher, better, happier system of human life.

Theology, with all its miserable, degrading dogmas, has separated the heart from the intellect ; and by causing an incessant warfare between the two has impoverished both. To reconcile them, theology must be eliminated ; and this is the aim and tendency of the best intellectual work of the present century. Theology has divided man's nature by introducing a being more or less incomprehensible and monstrous, and has said to the heart, " love this being," while the intellect has persisted in repudiating him. When the two parts are brought into harmony, there will still remain the problem of man's relation to the Unknown Power ; but it must be wrought out, if at all, by the intellect alone, and the heart left free to expend its love, in a natural way, upon things of flesh and blood. Only thus

can we reap the full measure of human sympathy and love.

If, by my humble efforts, I can contribute in ever so small a degree towards this grand reconciliation, I shall be amply rewarded ; for I believe it is essential to the preservation of the balance between the intellect and the emotions, on which our happiness and future progress so greatly depend.

ARTHUR J. DADSON.

Merton Park, Surrey.

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EVOLUTION AND RELIGION.

EVOLUTION.

CHAPTER I.

ANCIENT EVOLUTIONARY THOUGHT.

About fifty years ago, the author of *Vestiges of the Natural History of Creation* began that famous work by referring to the *size* of the earth as being familiar knowledge. In like manner we may now say in regard to the *age* of the earth, it is common knowledge that, so far from being some six thousand years old, we must reckon it by many millions at least. The vast age of our globe few now dispute; and we may fairly assume that the theory of gradual development is now accepted by the majority of thoughtful, educated people.

The Doctrine of Evolution is not an original product of modern science; it was an important feature in ancient Greek philosophy; and we meet with it as far back as 460 B.C., in the writings of Democritus and others. Only a few fragments of the works of that eminent thinker have come down to us; but from them we learn his theory of the Universe. He taught that there is nothing in Nature but atoms and space. Atoms are the ultimate

material of all things—including all the faculties and affections of mind or spirit, throughout the animal kingdom. They possess, as an inseparable quality of their nature, motion, which like the atoms themselves, is eternal. Both are self-existent, uncaused, and have existed from eternity. The atoms are invisible, but solid and impenetrable; and by their infinite combinations, all things are produced—mineral, vegetable, and animal. Not a single atom in the Universe can be at rest for the smallest fraction of time: such a state would destroy its character, which is eternal. Motion imparts to the atoms a tendency to combine in certain aggregates, but under all forms of combination motion persists. Every state of existence, organic and inorganic, is the result of special concurrence of the atoms, appropriate to each state; and as the totality of Nature is due to the atoms, and their infinite variety of combination alone, it follows that what we call life and death are *changes of form* only—distribution and combination of the atoms, reproduction and decay; and every organic existence is continuously passing through one or the other of these states. The condition known as life, is one in which the atoms are combining; that of death in which they are disuniting; but in both conditions, the nature of the atoms remains unchanged. There is no such thing as qualitative change; all growth and decay are merely the compounding and separating of atoms. No organism can possess any powers which are not derived from the motion of the atoms, and their infinite complexity of structure. It follows from the foregoing that at birth no *new force* can be brought

into existence, neither can any be annihilated at death. The popular notions, therefore, which regard the human soul as an entity are erroneous, since they presuppose the creation of a new force at birth, and the vanishing of that entity and force from the earth at death. Matter is a constant quantity, so also is force. Both are incapable of diminution or augmentation.

Everything happens from necessity, under the pressure of atomic force; and worlds, infinite in number, are ever in process of growth or decay. By a mechanical necessity, everything that is, is as it is, and could not be otherwise. Democritus would not admit that the formation of worlds and all they contain was in any way due to reason; and absolutely denied the necessity for pre-supposing the existence of an ordaining Intelligence. He was of course opposed to the popular theology of his day, and was looked upon as an extreme skeptic, and reviled accordingly. The theology has long since passed away, but his philosophy has lived, and is bearing fruit to-day in various departments of Philosophy and Science. "The theory of chemistry, as it now exists, essentially includes his views."

During this period, and down to the time of the Christian era, the intellectual activity of the Greeks was very great; and in the monumental works which those illustrious thinkers gave to the world the subject of evolution occupies a prominent place.[1] The crude notions of the priests regarding the origin and constitution of the Universe, which satisfied the people, could not of course find any favour with

[1] See article on "Evolution" in *Encyclopædia Britannica.*

men so intellectually endowed as were the sages of Greece.

The prevailing belief of the structure of the world was similar in regard to magnitude and character to that given by Moses. Man was surrounded by all sorts of invisible agencies, and supernatural wonders; and his chief object in life was to protect himself against their evil influence. A few miles above the earth was situated Olympus, the abode of the principal god Zeus, who, surrounded by his inferior gods and their wives and mistresses, indulged in various acts of human crime and passion. The stars were supposed to be the light of heaven shining through the rents in the floor. The gods occasionally came down from their abodes and mixed with the daughters of men, and kings and chiefs, in consequence, claimed celestial descent on the paternal side.

This theological explanation of the Universe was held from time immemorial in great veneration by the inhabitants of the islands of the Mediterranean and the surrounding countries. And great was the wrath of the people, led by the theologians, against the philosophers of Greece, for daring to question the religion of their forefathers. Many were despoiled of their goods as a punishment, and others banished or put to death.

Belief in such a system necessarily precluded all enquiry and progress among the people; but the intellectual horizon was widening in all directions, when Aristotle appeared, 384 B.C. Before his time, Greek philosophy had been purely speculative. He was the first to practise the true method of scientific research by patient observation of the facts of Nature

around him. He is called the founder of the Inductive method. He accepted the Evolutionary theory in principle, and by his labours in every known field of enquiry he collected an immense number of facts bearing upon and supporting the Theory of Universal Development. Dr. Draper[1] truly says all the modern advances in science are due to the Inductive philosophy established by Aristotle. For his fundamental views of Nature, Aristotle was greatly indebted to Democritus, and invariably speaks of him with great respect.

The idea of the organic arising from the inorganic was familiar to him. In his treatise *On the Parts of Animals*, he explains the distinction beween tissues and organs, and shows how the latter are built up from the former, and the former from the simple elements, heat and cold, etc. "Out of the elements are formed the homogeneous substances or tissues; out of these are formed the organs; out of the organs the organized being." Next he treats of the soul or "vital principle," which he asserts to be common to all living beings, including man. And even what we call inanimate nature is endowed with the same principle. The soul is not a separate entity, dwelling in the body during life, and leaving it for an eternal existence at death; but is rather a part of the universal soul or "vital principle," which, though it lives in the race—the universal—it dies in the individual—the particular. The Ethical end of man he believed to be happiness, which was to be attained by Justice and Culture. He was acquainted with over five hundred species of animals, and by

[1] *Conflict between Religion and Science*, p. 23.

close observation and dissection had discovered many rudimentary organs and their causes. The germs of the *Origin of Species* are plainly discernible in his works. He believed in the gradual development of all things, and rejected the notion that Nature works by fits and starts, or what in recent years have been called catastrophes. "He concluded that everything is ready to burst into life, and that the various organic forms presented to us by Nature are those which existing conditions permit; should the conditions change, the forms will also change. Hence there is an unbroken chain from the simple elements through plants and animals up to man, the different groups merging by insensible shades into each other."[1] "With regard to the history of Evolution, it is especially noticeable that Aristotle traced it in the most diverse classes of animals, especially in connection with the lower animals, with several of the most remarkable facts which we have re-discovered only towards the middle of the present century. Some of his theoretical thoughts are of special interest, because they indicate a right fundamental principle of the nature of the processes of evolution. He conceives the evolution of the individual to be a new formation, in which the several parts of the body develop one after the other. According to him when the human or animal individual developes either within the mother's body, or out of it in the egg, the heart is formed first, and is the beginning and the centre of the body. After the heart is formed the other organs appear; of them the interior precede the

[1] Dr. Draper, *Conflict between Religion and Science*, p. 23.

exterior, and the upper, or those above the diaphragm, precede the lower or those below it. The brain is formed at a very early stage, and out of it grow the eyes. This assertion is indeed quite accurate. On trying to obtain from these statements of Aristotle an idea of his conception of the processes of evolution, we find that they indicate a faint presentiment of that theory of evolution which is now called Epigenesis, and which Wolff, some two thousand years later, first proved. It is especially remarkable that Aristotle altogether denied the eternity of the individual. He admitted that the kind of species, formed from individuals of the same kind, might possibly be eternal; but asserted that the individual itself was transient, that it came into being anew in the act of generation, and perished at death."[1] These are indeed grand results to have arrived at nearly 2,200 years ago; and yet only within the present century have they borne any fruit.

The evolutionary idea was present to many of the great minds of antiquity, as may be seen from isolated expressions scattered through their writings. Cicero says, "One eternal and immutable law embraces all things and all times." In this we have the scientific conception of modern times, as opposed to the anthropomorphical ideas of the theologians, that a personal will directly superintends every event, however small.

In the writings of Zeno, the founder of the ethical school of philosophy in Greece, we find the most comprehensive and advanced views :—

[1] E. Haeckel, *The Evolution and Man*, vol. i. pp. 27, 28, 29.

"We must remember," he says, "that everything around us is in Mutation; decay follows reproduction, and reproduction decay, and it is useless to repine at death in a world where everything is dying. As a cataract shows from year to year an invariable shape, though the water composing it is perpetually changing, so the aspect of Nature is nothing more than a flow of matter, presenting an impermanent form. The Universe, considered as a whole, is unchangeable. Nothing is eternal but space, atoms, force. The forms of Nature that we see are essentially transitory, they must all pass away.

"We must bear in mind that the majority of men are imperfectly educated, and hence we must not needlessly offend the religious ideas of our age. It is enough for us ourselves to know that though there is a Supreme Power there is no Supreme Being. There is an invisible principle, but not a personal God, to whom it would be not so much *blasphemy* as *absurdity* to impute the forms, the sentiments, the passions of man. All revelation is necessarily a mere fiction. That which men call chance is only the effect of an unknown cause. Even of chance there is a law. There is no such thing as Providence, for Nature proceeds under irresistible laws, and in this respect the Universe is only a vast automatic engine. The vital force which pervades the world the illiterate call God. The soul of man is a spark of the vital flame, the general vital principle. Like heat, it passes from one to another, and is finally reabsorbed or reunited in the universal principle from which it came. Hence we must not expect annihilation, but reunion; and as the tired man looks forward to the insensibility of sleep, so the philosopher, weary of the world, should look forward to the tranquillity of extinction." He further says, however, that, "of these things we can have no certain knowledge, since it is not only unphilosophical but futile to enquire into first causes; we can deal only with the phenomenal. Man cannot ascertain absolute truth, we are incapable of perfect knowledge; and even if the truth be in our possession, we cannot be sure of it."[1]

It will be noticed that Zeno uses the words annihilation and extinction in two different senses. No part of us can be annihilated, but simply changed

[1] Dr. Draper's *Conflict between Religion and Science*, pp. 24, 25.

in form. The bodily part at death rejoins the matter of the world from which it was taken and built up, while the vital force, according to him, in like manner goes back to the universal force and is reabsorbed. This change of form produces extinction of consciousness; and this appears to be the sense in which he uses the word "extinction" or its equivalent.

Everything about the individual becomes reabsorbed in the universal. The Greek thinker here foreshadows the modern doctrine of the Conservation of Energy, supposing the "vital energy" to be a manifestation of general physical force.

So far then we see that the universal law of Development, by which worlds and all they contain are produced, was known to the ancients. Beginning with matter and force, they had evolved the theory that from these two elements all Nature has arisen, in one continuous, unbroken chain, the last link of which is man.

All the forms of Nature have arisen by imperceptible degrees, the higher from the lower, without the slightest break in the whole series of being, both organic and inorganic. This beautiful and true conception was given to the world in the early days of recorded history. It died like every other great discovery of ancient times, and lay buried for over 1,800 years. Not a trace of it being discernible during that long interval. The rediscovery was reserved for the latter part of the 18th century.

CHAPTER II.

PRINCIPLES OF EVOLUTION.

It is to Casper Friedrich Wolff, who was born in Berlin, in 1733, that we are indebted for the true theory of evolution. Previous to his discovery it was believed that the germ contained the whole individual, and that it grew by an unfolding, as it were, of the various parts. According to this theory all the organs are existent in the germ, and as the embryo grows, the organs all undergo a process of development simultaneously. The word evolution really accurately describes this process, and is more properly applicable to it than to the process established by Wolff, and known as Epigenesis. This, which is now known to be the true method of growth, is exactly the reverse of the germ development idea described above. Wolff discovered that the germ is primitively homogeneous, and grows by additions from without, the various organs becoming formed and differentiated step by step until the animal or plant is complete in form. The process is precisely similar in both animal and vegetable. The primitive germ is, in plain language, nothing but a tiny speck of undifferentiated matter too small to be seen by the naked eye; to this speck are added others of similar character, and, as it grows in

size, the formation and differentiation of the organs go on, until they are all fully formed, and the structure of the animal or plant is completed.

"The special novelty of Wolff's discovery consisted mainly in this, that he showed that the germinal part of the bird's egg forms a layer of united granules or organized particles (cells of the modern histologist) presenting at first no semblance of the form or structure of the future embryo, but gradually converted by various morphological changes in the formative material, which are all capable of being traced by observation, into the several rudimentary organs and systems of the embryo. Wolff further showed that the growing parts of plants owe their origin to organized particles or cells, so that he was led to the great generalization that the processes of embryonic formation and of adult growth and nutrition are all of a like nature in both plants and animals."[1]

Wolff's discovery shared the fate of other great discoveries: it was rejected for many years by those whose special business it should have been to investigate and recognise its truth. It was not until sixty years after he first published it that it gained acceptance, and was finally established. The slow growth of knowledge is nowhere more painfully shown than in the fact that scientific men even will passionately resist and reject for a time new discoveries which upset any theory that they have come to regard as true. Fortunately for progress, however, the scientific man's objection ceases the moment his *reason* is convinced. With him the objection is intellectual rather than emotional; with the theologian it is exactly the reverse. The latter *feels*, the former *thinks*; hence the never-ending conflict between religion and science.

[1] *Encyclopædia Britannica*, vol. viii. p. 165.

While, however, censuring the scientific man for allowing his preconceived opinions and beliefs to close his mind to a certain extent against the reception of new truth, we must bear in mind that his intellect, like that of all others, is under the control of physical conditions; and that although his mechanism is more finely adjusted and co-ordinated than that of the ordinary mind, and is therefore more susceptible and open to impressions, and more easily moved by them; it nevertheless requires an extraordinarily powerful brain to enable a man to at once throw off old and cherished views, and recognise and accept new truths which are opposed to them.

In 1733 Kant, the great German philosopher, published his *General History of Nature, and Theory of the Heavens.* In this work Kant makes a bold attempt to explain the mechanical origin of the Universe, according to Newton's principles, by a natural course of development, to the exclusion of all miracles. His *Cosmological Gas Theory* has since been fully established by Laplace and Herschel. Kant held that in inorganic nature there was no necessity to conceive of any directing intelligence, that mechanical laws were alone sufficient to account for everything. All phenomena, he maintains, are explicable by mere *mechanism*, and require no intervention of a will or final purpose. That is to say, in the world of not-living matter—as it appears to us—we can explain all phenomena by the action alone of well-known mechanical laws, which act of necessity, under the pressure of persistent force; and that it is needless to introduce into this

part of nature at least, any intervention whatsoever from a Superintending Intelligence, which people generally call God. Kant admitted, and indeed insisted on the all-sufficiency of this mechanism to produce the whole of inorganic nature. But when we come to living, or organic nature, Kant doubted if a Newton would ever arise to reduce the mysterious complexity of living forms to mechanical laws. He could not conceive it possible for the mind of man to penetrate into Nature's workshop, and discover the processes by which a blade of grass, for example, is made to grow otherwise than by an intelligent principle working for the accomplishment of a specific end—or, in other words, by the will of God. He did not deny to human reason the *right* to investigate and explain, if possible, all phenomena mechanically ; but he believed that the limited power of man precluded all possibility of conceiving of organic nature otherwise than from a teleological point of view.

While, however, expressing his inability to imagine that the mechanical laws of form and growth in organic nature would ever be discovered, if indeed they existed, he is forced by the necessity of thought on the subject into views which plainly foreshadow, if they do not distinctly contain, the *theory of descent.* The most important and remarkable of these passages occurs in his *Methodical System of the Teleological Faculty of Judgment*, which appeared in 1790 in the *Criticism of the Faculty of Judgment.*

"It is," he says, "desirable to examine the great domain of organized nature by means of a methodical comparative anatomy,

in order to discover whether we may not find in it something resembling a system, and that, too, in connection with the mode of generation, so that we may no longer be compelled to stop short with a mere consideration of forms as they are—which gives us no insight into their generation—and need no longer give up in despair all hope of gaining a full insight into this department of Nature. The agreement of so many kinds of animals in a certain common plan of structure, which seems to be visible not only in their skeletons, but also in the arrangement of the remaining parts—so that a wonderfully simple typical form, by the shortening and lengthening of some parts, and by the suppression and development of others, might be able to produce an immense variety of species—gives us a ray of hope, though feeble, that here perhaps some result may be obtained, by the application of the principle of the *mechanism of Nature*, without which, in fact, no science can exist. This analogy of forms (in so far as they seem to have been produced in accordance with a common prototype, notwithstanding their great variety) strengthens the supposition that they have an actual blood relationship due to origination from a common parent,—a supposition which is arrived at by observation of the graduated approximation of one class of animals to another, beginning with the one in which the principle of purposiveness seems to be most conspicuous, that is man, and extending down to the polyps, and from this even down to mosses and lichens, and arriving finally at raw matter, the lowest stage of Nature observable by us. From this matter and its forces the whole apparatus of Nature seems to have descended according to mechanical laws (such as those which she follows in the production of crystals); yet this apparatus, as seen in organic beings, is so incomprehensible to us, that we feel ourselves compelled to conceive for it a different principle. But it would seem that the archæologist of Nature is at liberty to regard the great *Family* of creatures (for as a Family we must conceive it, if the above-mentioned continuous and connected relationship has a real foundation) as having sprung from the immediate results of her earliest revolutions, judging from all the laws of their mechanism known to or conjectured by him."

In this passage Kant explicitly expresses himself in favour of the view that the mechanical laws prevailing in the formation of inanimate nature will

ultimately be found to be the efficient cause in the production of the organic world. Subsequent research and observation have proved the sagacity and depth of his penetration.

The theory of evolution by epigenesis was now becoming a subject of enquiry; and in the works of many eminent Biologists of this period there are numerous isolated passages which express in more or less definite language a knowledge of the true process. But there was no systematic study of the subject as an organic whole, embracing the unity of Nature, until the great French scientist, Jean Lamarck appeared. He was born in 1744, and stands at the head of the men of his period as a biologist and a thinker. And perhaps even at the present day no name, except that of our immortal Darwin, stands higher than his. In 1801, he published his theory, but treated it more fully in his *Philosophie Zoologique*, published in 1809. Haeckel says: "This admirable work is the first connected exposition of the Theory of Descent carried out strictly into all its consequences." Cuvier was his great opponent, and in consequence of the authority he exercised as a naturalist Lamarck's discoveries made no progress for nearly half a century. Naturalists were still under the influence of the Biblical History of Creation; and the whole force of social pressure was brought to bear upon Lamarck and his "impious" theory. It is a mere truism to say that had he lived a few years earlier he would have been burnt alive at the stake, as the noble-hearted Bruno and many others had been before him.

The following quotation from Haeckel, will enable the reader to judge of the great value of Lamarck's labours.

"According to him, there is no essential difference between animate and inanimate Nature; all Nature is a single world of connected phenomena, and the same causes which form and transform inanimate natural bodies are alone those which are at work in animate Nature. Hence we must apply the same methods of investigation and explanation to both. Life is only a physical phenomenon. The conditions of internal and external form of all organisms, plants and animals, with man at their head, are to be explained, like those of minerals and other inanimate natural bodies, only by natural causes (*causæ efficientes*) without the additions of purposive causes (*causæ finales*). The same is true of the origin of the various species. Without contradicting Nature, we can neither assume for them one original act of creation, nor repeated new creations, as implied in Cuvier's *Doctrine of Catastrophes*, but only a natural, uninterrupted, and necessary evolution. The entire course of the evolution of the earth and its inhabitants is continuous and connected. All the various species of animals and plants which we now see around us, or which ever existed, have developed in a natural manner from previously existing different species; all are descendants of a single ancestral form, or at least from a few common forms. The most ancient ancestral forms must have been very simple organisms, of the lowest grade, and must have originated from inorganic matter by means of spontaneous generation. Adaptation through practice and habit to the changing external condition of life, has ever been the cause of changes in the nature of organic species, and heredity caused the transmission of these modifications to their descendants."[1]

In Lamarck we no longer have glimpses here and there of the doctrine of development, as is the case with the whole of his predecessors, but a coherent and exhaustive exposition of the entire field of evolution, from atoms or molecules up to man. The

[1] *Evolution of Man*, pp. 24, 25.

following quotation from his *Philosophie Zoologique* contains a concise statement of some of the most important principles of monistic Biology.

"The systematic division of classes, orders, families, genera, and species, as well as their designations, are the arbitrary and artificial productions of man. The kinds or species of organisms are of unequal age, developed one after the other, and show only a relative and temporary persistence. Species arise out of varieties. The differences in the conditions of life have a modifying influence on the organization, the general form, and the parts of animals, and so has the use or disuse of organs. In the first beginning only the very simplest and lowest animals and plants came into existence; those of a more complex organization only at a later period. The course of the earth's development, and that of its organic inhabitants, was continuous, not interrupted by violent revolutions. Life is purely a physical phenomenon. All the phenomena of life depend on mechanical, physical, and chemical causes, which are inherent in the nature of matter itself. The simplest animals and the simplest plants, which stand at the lowest point in the scale of organization, have originated, and *still originate*, by spontaneous generation. All animate natural bodies or organisms are subject to the same laws as inanimate natural bodies or inorgana. The ideas and actions of the understanding are the motional phenomena of the central nervous system. *The will is in truth never free.* Reason is only a higher degree of development and combination of judgments."

Referring to this passage, Haeckel says :—

"These are indeed astonishingly bold, grand, and far-reaching views, and were expressed by Lamarck sixty years ago; in fact, at a time when their establishment by a mass of facts was not nearly as possible as it is in our day. Indeed, Lamarck's work is really a complete and strictly monistic (mechanical) system of Nature, and all the important general principles of monistic Biology are already enunciated by him; the unity of the active causes in organic and inorganic nature; the ultimate explanation of these causes in the chemical and physical properties of matter itself; the absence of a special vital power, or of an organic final cause; the derivation of all organisms from some few, most simple

original forms, which have come into existence by spontaneous generation out of inorganic matter; the coherent course of the whole earth's history; the absence of violent cataclysmic revolutions; and in general the inconceivableness of any miracle, of any supernatural interference, in the natural course of the development of matter."[1]

In the above quotation from Lamarck, and Haeckel's acceptance of the views therein expressed, there are two points to which I wish specially to call the reader's attention, viz., the denial of freedom of the will, and the assertion that origination of life by spontaneous generation is still going on. The so-called freedom of the will is indeed a scientific impossibility, and the continuous origin of life during the period of organic existence on the earth is necessitated by the Doctrine of Evolution. If evolution is true, so also is the theory that the development of life from inorganic matter takes place to-day, and has taken place continually and uninterruptedly since the earth first arrived at a condition favourable for the production of life. Masses of structureless matter possessing life are found all over the world, and especially at great sea depths. Evolution supposes that from this primitive living substance the whole of organic nature has arisen, including man himself. It is surely most unreasonable, and, indeed, I think impossible, to suppose that while some of the simple organisms developed into higher and more complex forms, eventually, through unimaginably long periods of time, producing all the varieties of animals and plants known to us, others should have remained during all these long ages in a stationary condition.

[1] *The History of Creation*, vol. i. p. 112.

If the Bathybius and the Moneron of to-day began their ancestral life contemporaneously with man, then the former have made absolutely no progress, while the latter has passed through an infinite variety of forms in the gradual ascent to his present marvellously complex and perfect structure; and yet both have been subject to similar—we might say the same—conditions. The fundamental principle of evolution negatives the possibility of such a theory being true. Either the origin of life from inorganic matter—or what is called spontaneous generation—has occurred throughout organic existence, and is occurring at the present time, or the doctrine of evolution is not true; from this position it appears to me there is no escape.

The whole history of science and philosophy cannot show a bolder or more uncompromising investigator and expounder of scientific truth than Lamarck. He makes no attempt, as many, indeed most, scientific men do, to propitiate the popular religious bodies by deprecating continually the idea that any antagonism can exist between the truths of Nature and "revelation." He had the courage of his convictions, and did not concern himself in any way with the latter. Like all his predecessors, he paid the penalty of his devotion to truth by having every path closed against him, and his life was one long and incessant struggle for the bare necessaries of existence. He died, in 1829, in the midst of the deepest poverty, having some fifteen years previously completely lost his eyesight. He was pursued and persecuted on all sides for proclaiming his grand discovery of the mechanism and unity of Nature.

I have said that Lamarck was a man who possessed the courage of his convictions. The following extract from his writings will show that he did not shrink from carrying out his theory into all its consequences, and proclaiming the kinship of man himself with the lower animals; and that, at a time when the so-called scientific knowledge of the age rejected with scorn and contempt the theory as applied to even the lower forms of life.

"It would be an easy task," wrote Lamarck, in 1809, "to show that the characteristics in the organization of man, on account of which the human species and races are grouped as a distinct family, are all results of former changes and occupation, and of acquired habits, which have come to be distinctive of individuals of his kind. When, compelled by circumstances, the most highly developed apes accustomed themselves to walking erect, they gained the ascendant over the other animals. The absolute advantage they enjoyed, and the new requirements imposed on them, made them change their mode of life, which resulted in the gradual modification of their organization, and in their acquiring many new qualities, and among them the wonderful power of speech."

We can well imagine the reception such a bold declaration would meet with eighty odd years ago, when the science of biology was in its infancy, and those possessing the greatest authority were earnestly concerned in making the subject of their study in all respects square with the Bible. There was no one so poor in intellect that he could not sit in judgment on such extravagant "absurdities," and laugh at the solitary, unknown thinker, whose poverty all the more rendered him a safe and easy object of ridicule. The smug smile of superior wisdom with which the Church authorities received

the philosopher's wonderful discovery was reflected in the faces of the youngest and most stupid of their curates. Little could the Church foresee the consequences to her which were ultimately to flow from Lamarck's despised doctrine.

The most celebrated of the Nature-philosophers in France at this time was Etienne Geoffrey St. Hilaire, who, in all essentials, adopted Lamarck's theory of Descent, though differing from him somewhat in details. He was Cuvier's most prominent opponent, and a memorable contest took place between them in 1830 in the French Academy.

Cuvier maintained that the earth had undergone a series of catastrophes, or cataclysmic revolutions, which at each occurrence destroyed every form of life; and that each catastrophe was succeeded by an entirely new creation of the vegetable and animal kingdoms. This was an assumption which was supposed to save the credit of the Biblical account of creation; and, of course, it met with great favour from all, except the very few great thinkers who were capable of understanding the theory of descent.

The audience of scientists was well acquainted with Cuvier's views in all their details; and it is not at all surprising, therefore, that the verbal victory should have been awarded to him. Geoffrey had not only to break new ground, but the facts with which he had to deal were not so obvious to the eye and understanding as those which were at the command of Cuvier. The induction of facts was too meagre to appeal to the judgment of those who approached the subject for the first time; and Cuvier

was able to impress his audience with the conviction that the Nature-philosophers were not justified in drawing such comprehensive conclusions from the empirical knowledge which was then in their possession. Cuvier's victory over Geoffrey de St. Hilaire on this memorable occasion prevented all further study of the theory for thirty years. Goethe, although in his eighty-first year at the time, took the deepest interest in the discussion, as the following anecdote related by Soret shows :—

"Monday, Aug. 2nd, 1830.—The news of the outbreak of the Revolution arrived in Weimar to-day, and has caused great excitement. In the course of the afternoon I went to Goethe. 'Well?' he exclaimed as I entered, what do you think of this great event? The volcano has burst forth, all is in flames, and there are no more negotiations behind closed doors.' 'A dreadful affair,' I answered; 'but what else could be expected under the circumstances, and with such a ministry, except that it would end in the expulsion of the present royal family?' 'We do not seem to understand each other, my dear friend,' replied Goethe. 'I am not speaking of those people at all; I am interested in something very different; I mean the dispute between Cuvier and Geoffrey de Saint Hilaire, which has broken out in the Academy, and which is of such great importance to science.' This remark of Goethe's came upon me so unexpectedly that I did not know what to say, and my thoughts for some minutes seemed to have come to a complete standstill. 'The affair is of the utmost importance,' he continued, 'and you cannot form any idea of what I felt on receiving the news of the meeting on the 19th. In Geoffrey de Saint Hilaire we have now a mighty ally for a long time to come. But I see also how great the sympathy of the French scientific world must be in this affair, for, in spite of the terrible political excitement, the meeting on the 19th was attended by a full house. The best of it is, however, that the synthetic treatment of Nature, introduced into France by Geoffrey, can now no longer be stopped. This matter has now become public through the discussions in the Academy, carried on in the presence of a large audience; it can no longer be referred

to secret committees, or be settled or suppressed behind closed doors.'"

In the following quotation from Goethe's poem, *The Metamorphosis of Animals*, his view of the processes of organic growth is clearly stated.

"All members develop themselves according to eternal laws,
And the rarest form mysteriously preserves the primitive type.
Form therefore determines the animals way of life,
And in turn the way of life powerfully reacts upon all form.
Thus the orderly growth of form is seen to hold
Whilst yielding to change from externally acting causes." [1]

Goethe includes man in the series of organic development. Man, he maintained, is a product of a lower animal form, and is the last link in the chain of animal evolution.

While Goethe was thinking out some of the most important laws of evolution, another great German was at the same time engaged in similar studies, and quite independently of each other both arrived at the same results. G. R. Treviranus published *The Biology and Philosophy of Animate Nature*, in 1802; and from the following extract it will be seen that the mechanical processes of evolution were thoroughly well known to him.

"Every form of life can be produced by physical forces in one of two ways; either by coming into being out of formless matter, or by modification of an already existing form by a continued process of shaping. In the latter case the cause of this modification may lie either in the influence of a dissimilar male generative matter upon the female germ, or in the influence of other powers which operate only after procreation. In every living being there exists the capability of an endless variety of form-assump-

[1] Haeckel's *History of Creation*, vol. i. p. 85.

tions; each possesses the power to adapt its organization to the changes of the outer world, and it is this power put into action by the change of the Universe that has raised the simple zoophytes of the primitive world to continually higher stages of organization, and has introduced a countless variety of species into animate Nature. . . . These zoophytes are the original forms out of which all the organisms of the higher classes have arisen by gradual development. We are further of opinion that every species, as well as every individual, has certain periods of growth, of bloom, and of decay, but that the decay of a species is *degeneration*, not dissolution, as in the case of the individual. From this it appears to us to follow that it was not the great catastrophes of the earth (as is generally supposed) which destroyed the animals of the primitive world, but that many survived them, and it is more probable that they have disappeared from existing Nature, because the species to which they belonged have completed the circles of their existence, and have been changed into other kinds. . . . Every enquiry into the influence of the whole of Nature on the living world must start from the principle that all living forms are products of physical influences, which are acting even now, and are changed only in degree, or in direction."

Haeckel, from whose *History of Creation* the above extracts are taken, remarks :—

"When Treviranus, in this and other passages, points to *degeneration* as the most important cause of the transformation of the animal and vegetable species, he does not understand by it what is now commonly called degeneration. With him 'degeneration' is exactly what we now call *adaptation* or *modification*, by the action of external formative forces. That Treviranus explained this transformation of organic species by adaptation, and its preservation by inheritance, and thus the whole variety of organic forms, by the inter-action of adaptation and inheritance, is clear also from several other passages. How profoundly he grasped the mutual dependence of all living creatures on one another, and in general the *universal connection between cause and effect*—that is, the monistic causal connection between all members and parts of the Universe—is further shown, among others, by the following remarks in his Biology :—'The living individual is dependent upon

the species, the species upon the fauna, the fauna upon the whole of animate nature, and the latter upon the organism of the earth. The individual possesses indeed a peculiar life, and so far forms its own world. But just because its life is limited it constitutes at the same time an organ in the general organism. Every living body exists in consequence of the Universe, but the Universe, on the other hand, exists in consequence of it.' It is self-evident that so profound and clear a thinker as Treviranus, in accordance with this grand mechanical conception of the Universe, could not admit for man a privileged and exceptional position in Nature, but assumed his gradual development from lower animal forms. And it is equally self-evident, on the other hand, that he did not admit a chasm between organic and inorganic nature, but maintained the absolute unity of the organization of the whole Universe." [1]

Again, Oken, who was perhaps the most eminent of the German Nature-philosophers, says, in his *Outlines of the Philosophy of Nature*, "Life originates from original slime." . . . "Every organic thing has arisen out of slime, and is nothing but slime in different forms. This primitive slime originated in the sea, from inorganic matter in the course of planetary evolution." . . . "Man has been developed, not created." Neither Oken nor Goethe nor Treviranus would admit for one moment that man occupied any privileged or exceptional position in Nature, or in any way differed from the rest of the organic world, in the processes of gradual development from lower to higher forms. Even in their day, when biology was almost an unknown science, they saw no justification for such an assumption, opposed as it was to every fact within their knowledge, and to every rational and philosophical thought upon the subject. Man is no exception to the general law of

[1] Haeckel's *History of Creation*, vol. i. pp. 94, 95.

development; he, like the rest of the living world, has come up from that slime, which all the foremost biologists, as well as the great majority of scientists and thinkers, are now agreed is the origin of every living thing in existence.

It is perhaps not particularly gratifying to our vanity to have to claim kinship with the animals. For my part, however, I see nothing humiliating in the fact that the superior powers possessed by human beings have been acquired by a series of gradations from lower to higher forms. The question as to whether man owes his superiority to this law or to that, is not one in which, as it seems to me, his dignity is involved. What does it matter to me whether my hand for instance, which is one of the most important and characteristic organs about me, has been brought to its present useful state by a long slow process of natural development from less perfect forms, or has been made, by a single act of creation, in its present perfect condition? The usefulness and value of my hand to me are the same in either case. A certain result is arrived at, and that result is not affected by the supposition that it has been through this process or through that.

Take again the mind, which is, of course, the crowning glory and distinction of man. It is a well-established fact in mental physiology that the quality and power of the intellect are due to the quantity and quality of the brain substance. How is my dignity then concerned in the question as to whether that material substance has been brought to its present condition of complex structure by slow degrees, from lower and less perfect forms of brain, or was made

as it is by a special act of creation? The quality and usefulness of my mind are the same on either supposition. What I am affected by is the character of the result, and not the process through which that result has been obtained. It is a matter over which I have not the slightest control, and it would be futile and childish to object to a law of Nature, and refuse to recognise it, because in my ignorance and vanity I have been accustomed to regard man as the special being for whom all Nature has been designed and brought into existence.

At the period of which I am writing there were a good many eminent enquirers in Germany into the truth of organic evolution, by most of whom it was accepted in principle.

In France the great authority of Cuvier and the verbal victory obtained over Geoffrey repressed, if it did not quite stop, all further study of the mutability and transformation of species, and with the exception of two great naturalists, Naudin and Lecoq, Frenchmen remained for many years blind followers of Cuvier and his doctrines.

The world owes much to German intellect in all departments of human enquiry; but perhaps in none have the Germans done such signal service to science and progress as in the important field of Biology. And yet for fifty years after their great countryman Wolff published his discovery to the world the subject was scarcely mentioned among even the leading German naturalists. Haeckel says :—

"As an instance how utterly biologists refrained from enquiries into the origin of organisms, and the creation of the animal

and vegetable species, during this period from 1830 to 1859, I mention from my own experience the fact that during all the whole course of my studies at the university I never heard a single word on these most important and fundamental questions of biology. During this time, from 1852 to 1857, I had the good fortune to listen to the most distinguished teachers in all branches of the science of organic nature; but not one of them ever spoke of this fundamental point, or even once alluded to the question of the origin of species. . . . The enormous opposition which Darwin met with when he first took up this question again may, therefore, be understood. His attempt seemed at first to be unsubstantial and unsupported by previous labours. Even in 1859 the entire problem of creation, the whole question of the origin of organism, was considered by biologists as supernatural and transcendental. Even in speculative philosophy, in which this question should necessarily be approached from various sides, no one dared to take it seriously in hand."[1]

With the advent of Charles Darwin the time had arrived to fix for ever, on a *sure basis of scientific knowledge*, the greatest and most important truth ever discovered by the mind of man. The labours of all previous workers had resulted in a large mass of empirical knowledge from which they speculatively divined, as it were, the connected processes of universal growth; he raised it from this empirical condition, and placed it on an imperishable foundation, by *discovering the natural law by which Evolution is really proved*, and which brings it as completely within the field of absolute knowledge as is the most exact of the sciences. He is really the Newton of the organic world, whose advent Kant had declared some seventy years before to be utterly inconceivable, and an impossibility.

[1] *Evolution of Man*, vol. i. p. 78.

"It is quite certain," Kant said, "we cannot become adequately acquainted with organized beings, and their inner possibilities, by purely mechanical principles of Nature, and much less are we able to explain them; and that this is so much the case that we may boldly assert that it is not rational for man even to enter upon such speculations, or to expect that a Newton will ever arise who, by natural laws not ordered by design can render the production of a blade of grass intelligible; in fact we are compelled utterly to deny that it is possible for man to reach such knowledge."

Kant, one of the deepest thinkers of modern times, assumed that the Universe of world, suns, moons, stars, comets, etc., was, at an inconceivably remote period, a formless mass of fiery mist—a kind of gaseous chaos infinitely extended, out of which all the heavenly bodies, as far as the mind can conceive of their existence, have been formed by the operation of well-known mathematico-astronomical laws. This Cosmical Gas Theory, as it is called, of the development of the Universe was put forward by Kant in 1755; and, as we have said above, has since been proved to be true by Laplace, Herschel, and others. It harmonises with all the series of phenomena at present known to us, and is generally accepted by competent enquirers.

It must not be supposed, however, that this theory touches the *real origin* of the Universe, either in regard to matter or motion. We are as incapable of conceiving a *first beginning* to the Universe as we are of a final end; both are alike unthinkable, at least in the present state of our knowledge, and, as it would appear, our faculties of knowing. The late G. H. Lewes said, speaking of the boundary of the knowable set by the

conditions of thought, "To know more we must be more." Whether in the course of long ages continuous development will ultimately make us "more," and enable us to transcend the present limits, we cannot say. At present the Infinite hems us in on all sides, and we can only deal with the finite in time and space, though under an everlasting necessity of postulating the Infinite in regard to both. The objection to Kant's theory, then, that it does not supply us with an explanation of the development of the motion by which the Universe of gas began to differentiate into worlds, etc., is no more reasonable than it would be to object to any well-established law to-day because its origin is equally shrouded in mystery.

Nor does it seem to us necessary to start with the supposition that the *whole* universe of matter was at *one* remote period in a state of diffusion. We know that, scattered through space, there are enormous masses of this fiery fluid, which are now undergoing the processes of world-making; while there are also worlds whose life-bearing period has passed, and which are probably on the road to become again attenuated masses of formless matter. Astronomers tell us that in the belt of Orion there is an enormous mass of misty substance which is now, probably, a system of worlds in course of evolution. At certain times this luminous mass can be seen, resembling in some respects a star, though differing from it in others. The distance and size of this mass are so great that the mind utterly fails to realise even a millionth part of them. In the course of almost infinite ages that body,

which appears to us a mere speck, will form a Universe of worlds, similar to our solar system, and to myriads of other systems existing throughout space. And there is good reason to believe that as their surfaces cool down they will become the homes of countless varieties of vegetal and sentient life.

The growth and decay of worlds seems infinite and eternal, as the Universe itself seems unlimited and immeasurable. And since we can fix no period even in thought to the beginning of the entire process, it seems to us that we are scarcely justified in assuming that there ever was a time when the whole Universe contained nothing but gaseous chaos—contained, that is, no worlds, some in process of formation, others of dissolution. We are under the same necessity to limit our enquiry on this subject, and to assume that growth and decay are eternal—past and future—that we are to limit our enquiry, and to assume an eternal existence for matter and force.

As it is true of every organic existence that it is either growing or decaying—either integrating or disintegrating, so is it also true of every celestial body or system of bodies; they are one and all either growing or decaying—integrating or disintegrating. From the diffused nebulous mass to the life-bearing planet, and from this latter back to the diffused state again, there are probably innumerable systems existing in every stage of the process. The circles of formation and dissolution are eternal, and strive as we may to mentally represent a time when they all had a beginning simultaneously is an

impossibility. Under the persistence of force the process is incessant and continuous.

For the reason that we cannot imagine a beginning, we cannot realise in thought an end. The one implies the other. Lord Kelvin and others regard the Universe as a candle which was lit at some inconceivably distant time, and is gradually, but surely, burning itself away. Hence the Universe had a beginning and must have an end. This would be conceivable if systems after having run through the cycle of growth and decay returned to a *permanent* state of diffused homogeneity in which all sensible motion had been transformed into insensible, and the particles were in a state of absolute equilibrium, and for ever uninfluenced by the surrounding systems of the Universe. The sun may in time absorb all the planets, and the whole mass reach a state of complete equilibrium or quiescence ; but that it can remain so for ever in a Universe where innumerable other systems are in motion, and acting upon the solar mass, is, we may speculatively assume, impossible. Hence there cannot be Universal Death, while one system is dying another is slowly emerging from death or quiescence by the action of surrounding motion. On this subject see Mr. Herbert Spencer's *First Principles*.

These are subjects, however, too far-reaching and speculative to supply us with data for exact knowledge. And, moreover, such speculations are not germane to my purpose.

Disregarding the question as to the origin of motion, resulting in the formation of the celestial bodies as a whole, we may assume that the Nebular

hypothesis is true, and that all the bodies in our solar system were at one time a diffused mass of fiery mist, filling the entire space within the circumferencc of its area. By the action of well-known mechanical laws this fiery mist must have become differentiated into the various planets, etc., forming the solar system, including, of course, our earth. In course of time the mist became denser and denser, until, having passed through the various stages, the outer crust became solidified and hard, and eventually was fitted for the abode and sustenance of life.

Now the manner in which life originated is still shrouded in mystery ; but the foremost biologists are agreed that at a certain stage in the condensation of the earth's crust living matter arose, as the natural and necessary result of molecular action. To bridge over in thought the apparently sharply defined contrast between organic and inorganic matter—between living and not-living matter—is, to the mind unaccustomed to think over and follow carefully the inconceivably rapid motions of atoms and molecules and their marvellously complex chemical combinations, an impossibility.

While it is unavoidable in studying a science to treat it under different divisions, and make use of terms which seem to imply breaks or divisions and starting points at each section, we must constantly bear in mind that in Nature there are no such breaks or starting points. Nor even between the sciences themselves are there any such natural divisions. They are necessitated by the limited faculties of man. If we could view Nature as a whole, instead

of only in minute parts—if, for example, we could realise a mental picture of the entire existence of the earth, from its nebulous state to its present multiform condition, we should see the interdependence of all its parts, bound together by a continuous chain of cause and effect running through the whole series, from primitive chaos up to man. If the minds of all the human units that ever existed could be collected into one volume of intellectual power, it would probably be unable to realise such a picture of our planet's life even. What then shall we say of the Universe—of that part only which is within our ken? A faint conception of the stupendous picture may be obtained, if we consider that, if it were possible to annihilate our earth, blot it out of existence, the void created would not be so great in regard to the *known* Universe as the void which would be caused by the annihilation of the smallest particle of sand in regard to the earth! The proportion is greater between the sizes of the earth and the *known* Universe than between the sizes of a particle of sand and the earth!

While, however, we can never hope to attain to such results, we can follow in thought the processes of evolutionary law, by which living substances arise—by which, that is, the property we call 'life' results from the complex arrangements of molecular action; as the various other properties of matter arise from the complex chemical arrangements of molecules, producing results altogether unlike in properties to those possessed by the constituent parts before combination takes place. In this train of thought lies the theoretical solution

of the problem, which has puzzled, and still puzzles, the heads of so many acute writers and thinkers.

The phrase, "Spontaneous Generation" has tended somewhat to obscure the subject, and helped to prevent an adequate conception of the natural processes by which the apparent gulf between living and not-living matter is bridged. It seems to imply an arbitrary, an altogether unaccountable effort of Nature, divorced from natural law, an effect for which there is no cause. In this sense there is nothing spontaneous in Nature. We mix hydrogen with oxygen in certain proportions and the result is water, a substance which bears no resemblance whatever to either hydrogen or oxygen; and which contains properties previously, so far as we know, non-existent in the constituents; and so on with a multitude of substances, all of which are familiar knowledge. Now, what do we know of the *real* nature of these marvellous changes wrought by molecular arrangement and re-arrangement? We know the *mechanical how*, but absolutely nothing of the *causing why*; nor do we enquire further. The *ultimate rationale* is reached when we have traced the effects to their efficient mechanical causes. It is sufficient for us, at least in the present state of our knowledge, to *know* that certain combinations always and inevitably produce similar results; and this is the fundamental basis of all human knowledge. To the powers and inherent tendencies of the molecules, by which the transformations are brought about, we never think of applying the term "spontaneous," because having reached the physical

processes producing the results referred to we are supposed to *know*; and are content to accept this as the most certain and ultimate analysis of all possible science.

We have now to enquire if living matter in any form can be traced to arrangement and re-arrangement of molecules, however complex; if what we know as "life" in protoplasmic matter can be shown to result from molecular action in chemical combinations. It is well known that a perfectly structureless and homogeneous substance, called protoplasm, or bioplasm, is endowed with life, and that this undifferentiated, slimy substance is capable of motion, external and internal. A small mass, lying in a quiescent state, may be observed all at once to shoot out very thin thread-like feelers in all directions, which, as soon as they come into contact with suitable material, close round and draw it into the main body, which then closes over it, extemporises, as it were, a stomach, and feeds on the matter thus secured. This slimy, structureless matter is the basis of all terrestrial life, both animal and vegetable, and is the same in both. But for the fact of this "primeval slime" possessing life, we might class it with inorganic substances, since it possesses none of those characteristics of structure which we are accustomed to call organic. Since, however, it is known to possess vital functions, and is always present in all organisms "as the essential and never-failing seat of the phenomena of life," we must assign it to the organic, and not to the inorganic, kingdom.

The question is, How is this shapeless, structure-

less, unorganised substance, which is found in great quantities in the sea, produced? By what natural processes has it arisen from the inorganic? Or rather how has it acquired the properties of "life"?

We know that the plant can elaborate protoplasm from mineral substances. It lies in a bath, as it were, of its own food; and from this inorganic matter imbibes minute particles over the whole surface, which are converted into protoplasm, probably by the molecular arrangment imparted to them by the molecular action of the plant. Be this as it may, we know for a certainty that the plant's food derived from the atmosphere and earth, is converted into *living matter*, and that through this means the animal world is supplied with food. No animal can live on mineral substance; that substance must first be passed through the vegetable, in which it acquires properties fitting it for animal food. The plant, in fact, is nothing more than mineral substances converted into vegetable substance by molecular re-arrangement, which again as it passes into the animal is further converted into animal substance by another most complex re-arrangement of the molecules. In other words, all the varieties of animal and vegetable life are nothing more than mineral substances which have undergone infinite varieties of molecular arrangement, producing, as a consequence, all the varieties in the vegetable and animal kingdoms.

Nature's laboratory is probably continually producing this subtle, naked, formless, living matter; and, exemplifying the saying of the ancient Greek philosopher, that "everything is ready to burst into

life." Not only is it elaborated from inorganic matter by vegetables, but there is, I think, reason to believe that it comes into existence without the intervention of other living organisms, direct from mineral substance. Haeckel discovered it in the shape of small specks, to which he gave the name Monera, and Huxley found it in enormous quantities at the greatest depths in the sea, and gave to it the descriptive name of Bathybius. The largest of these minute "creatures of primeval slime" are about the size of a pin's head, and are the most simple of all organisms. They are in fact "*organisms without organs*," for, although they are capable of performing some of the functions of organized creatures of primitive structure, they are themselves utterly destitute of anything like organs, and are nothing more than little lumps of irregular, homogeneous protoplasm, or slime. Haeckel says the Moneron is the connecting link between organic and inorganic nature, and as such it is of the very greatest importance to the doctrine of Evolution. That it comes into existence by chemical arrangement and re-arrangement of the molecules, of almost infinite complexity, is, it seems to us, a postulate, which is necessitated by the condition of evolutionary thought. To prove or disprove what is called spontaneous generation is, it seems, in the present state of science, an impossibility.

We shall not find it impossible to follow, in *thought* at least, the origin of the property of life from chemical combination of molecules, if we consider that in all such combinations we get properties and results which are just as mysterious and inexplicable as the

property we call "life" in its simplest form. We cannot explain *why*—to use our former illustration—eight of oxygen and one of hydrogen, when mixed, should produce water—a substance so utterly unlike the parts composing it. All that we *know* is that these substances are endowed with properties which never fail to produce water, when mixed in the given proportions; and deeper into the *why* or wherefore we cannot go. The never-failing mechanical law is the ultimate analysis of our knowledge on the subject. And it is no more reasonable to look beyond the physical action of molecular arrangements which produce life for some other and special force or creative act, than it would be to look for such special creative acts in the mechanical molecular arrangements which produce other equally inexplicable properties of chemical compounds.

Dr. Bastian says in p. viii. of the preface to his *Beginnings of Life*:—

"We know that the molecules of elementary or mineral substances combine to form acids and bases by virtue of their own 'inherent' tendencies; that these acids and bases unite so as to produce salts, which, in their turn, will often again combine and give rise to 'double salts.' And at each stage of this series of ascending molecular complexities, we find the products endowed with properties wholly different from those of their constituents. Similarly, amongst the carbon compounds, there is abundance of evidence to prove the existence of internal tendencies or molecular properties, which may and do lead to the evolution of more and more complex chemical compounds. And it is such synthetic processes, occurring amongst the molecules of colloidal and allied substances, which seem so often to engender or give 'origin' to a kind of matter possessing that subtle combination of properties to which we are accustomed to apply the epithet 'living.' . . . Both crystalline and living aggregates appear to be

constantly separating *de novo* from different fluids, and both kinds of matter now seem to be naturally formable from their elements."

And again, a little further on, he says :—

"Our experimental evidence, therefore, merely goes to prove that such an elemental origin of living matter *is* continually taking place at the present day—that it still comes into being, in fact, by the operation of the same laws, and in the same manner, as the majority of scientific men and a large section of the educated public believe that it must have originated in early days of the earth's history—when 'living' compounds first began to appear upon the cooling surface of our planet. And if such synthetic processes took place then, why should they not take place now? Why should the inherent molecular properties of various kinds of matter have undergone so much alteration? Why should these particular processes of synthesis now be impossible, although other processes of a similar nature still go on?"[1]

The experiments which have been made since this was written have not resulted in any confirmatory evidence of the truth of spontaneous generation, nor, on the other hand, have they produced any decisive evidence against the theory.

The birth, so to speak, of primitive life has, there is reason to believe, gone on without interruption for immeasurable ages—since, in fact, the earth first attained to the conditions favourable or suitable for its existence. Protoplasmic birth and death are probably as common to-day as birth and death among all the higher forms of life. In every instant of time, particles of matter by their own inherent properties or powers—call them what you will—are arranging themselves in such manner as to produce the properties of "life"; and in every instant of time

[1] On this subject, see Bastian's *Beginnings of Life*.

they are losing those properties, by a re-arrangement or dissolution of the molecules necessitated by the external conditions acting upon them. While, however, as I assume, throughout the world, life in its primitive state is continually arising and dying, many of the little gelatinous specks live, and begin to take on the first form of organic structure, in the shape of what is called a cell.

This cell is a tiny kernel, and forms, as it were, the building material of the whole of organic nature. It is to the animal and the plant what the brick is to the house, and as the latter is formed by adding brick to brick, so are the former formed by adding cell to cell; and the most elaborate and complex organic structure is nothing but an infinite conglomeration of cells alone.

The Cellular theory marked an epoch in the science of Biology. It was established about forty-six years ago by Schleiden and Schwann. Previous to this most important discovery it was believed that the germ of every creature contained the entire organs and parts folded up in it, and that growth to maturity was a process, as we have said, of unfolding, or evolution according to the etymological meaning of the word. The truth is something quite different. The cell is the constructive unit of the individual, and is an independent living organism of the most primitive order. Every creature, even man himself, is nothing more than a community of these cells; and the vital phenomena of every organism are the collective result of the vital phenomena of the cells composing it. Cell formation and growth is a long and complex study in itself,

and we cannot do more than mention the bare facts of the theory, without entering into any detail or description whatsoever. Those who wish to understand the subject must consult the works of Haeckel, Huxley, Ray Lankester and others. It is sufficient for us to know that animal and vegetable growth is by the addition of cell to cell, and that this is the universal process. Between the animal and the vegetable cells there are certain differences of structure, which, however important, we cannot enter into here.

The construction of the organic pedigree from protoplasmic life is a work of stupendous magnitude, and, indeed, before the whole pedigree is complete in all its parts we must await further research and discovery. Few transitional forms have as yet been found, and many may never come to light; but sufficient is known to enable us to construct in outline the descent and connection of the main divisions of the entire series. Perhaps it is assuming too much to put it in this way, for I do not suppose anyone expects or hopes that the genealogical tree of Nature will ever be complete; and we might even go the length of saying that it is quite an impossibility. Many of the lower forms of animals have entirely disappeared, owing, among other things, to an insufficient stability of structure for preservation in the strata of the earth; and even among the higher forms it is scarcely to be expected that the labours of man will ever succeed in unearthing all the multitudinous species, scattered as they are throughout the crust of the globe to a depth of many thousands of feet, even if they are all preserved,

which is more than doubtful. But this is no barrier to the absolute proof of the doctrine of descent. For example, though we may never find the missing link connecting man with the Anthropoid apes, the proofs of their common origin are so many and so overwhelming that no zoologist of reputation has the slightest doubt upon the subject; and it is scarcely an exaggeration to say that however interesting such a discovery would prove to mankind in general, and to evolutionists in particular, the confirmatory evidence to the latter is so strong as to be entirely independent of it. See Huxley's *Man's Place in Nature* and Haeckel's *Evolution of Man.*

The views of Darwin and Lyell exactly coincide on the subject of these geological records. Darwin says :—

"I look at the geological record as a history of the world imperfectly kept, and written in a changing dialect; of this history we possess the last volume alone, relating only to two or three countries. Of this volume, only here and there a short chapter has been preserved; and of each page, only here and there a few lines. Each word of the slowly-changing language, more or less different in the successive chapters, may represent the forms of life which are entombed in our consecutive formations, and which falsely appear to us to have been abruptly introduced. On this view, the difficulties above discussed are greatly diminished, or even disappear." [1]

I have endeavoured to indicate briefly, and necessarily very vaguely, the natural processes by which slimy matter containing the properties of life, is, I think, continously being evolved from inorganic matter, viz., by chemical combination of molecules.

[1] *Origin of Species*, 6th edition, p. 289.

Those who wish to pursue this subject further must study the works of biologists. It is sufficient here to merely state the facts; and throughout this part I profess to do nothing more than give the conclusions arrived at by the observations and researches of scientific men.

While the mechanical processes of the origin of life are conceivable, the *real* mystery remains untouched, and apparently insoluble. *Why* certain kinds of albuminous matter should arrange themselves by their own inherent powers in such a manner as to give rise to "life," is quite unknown to us; and no scientist pretends to offer the slightest explanation of it. This cannot be too distinctly stated, in view of the charges continually brought against men of science of pretending to knowledge inscrutable to man. It is sufficient for him to know the mechanical processes, without troubling himself about the underlying and unknowable final cause. It is the man who is ignorant of natural laws who pretends to a knowledge of the unknowable, and solves, without the slightest misgiving, the problem which to the developed and informed mind is absolutely unthinkable and inconceivable. The man of mediocre intellect and meagre knowledge sees no difficulty in accounting for all things, by attributing them to the work of a man-like being, magnified, it may be, a thousand or a million fold. The one sees clearly that no power conceivable by him could account for the simplest thing in Nature, and recognises the futility of evolving from his own ignorance a meaningless explanation. The other, ignorant alike of the terms and the difficulties of

the problem, sees no mystery, and thinks a perfectly satisfactory solution is reached by projecting his own finite nature and attributes into an imaginary being whom he calls "God." It is useless to explain to him the fallacies underlying all such assumptions and explanations. He is in the position of De Morgan's correspondent, who announced to the great mathematician that he had squared the circle—incapable of understanding the reasoning by which the fallacy is exposed.

Leaving to the theologians then the knowledge and explanation of *final causes*, our business is with phenomena only, *i.e.* natural law as it is seen in active operation around us; with the *causal how* and not the teleological *why*.

Returning to the primeval protoplasmic life, we found the Moneron to be a structureless little mass of living matter; and the ancestor of every living form in existence, animal and vegetal. Wherever we see a pool of rank water, there probably we see Nature's workshop, in which she is evolving and elaborating life from the raw material, some of which will die in its formless condition, some survive and develop into vegetable forms, others into animal; and so, by the never-ceasing operation of the inherited activities residing in these minute creatures, and the external conditions to which they are exposed (Heredity and Adaptation), the vast unnumbered species of animals have slowly and gradually arisen, through a period of time so vast that, to our limited faculties, it may well be called infinite.

In the earliest stages of life, it is impossible to

say whether these microscopic creatures should be classed as plants or as animals, since they partake of the characters of both. This intermediate kingdom Haeckel calls the *Kingdom of the Primary Creatures* (Protista). There are many known kinds of protista, and many more yet undiscovered. Haeckel has described eight classes of these ambiguous organisms, the lowest of which is the Moneron. They are found in the sea, in fresh water and on land. Some possess the power of locomotion; some are incapable of movement, and are attached to stones, shells, plants, etc. Naturalists are agreed that many organisms, which they decidedly class as plants, are capable of locomotion, while others, which they class as animals, are not; so that this is no test as to which kingdom they belong to. The method of propagation of these primitive forms of life is by division into two parts; there are no sexes.[1]

Next to the Moneron in importance comes the Amœba, in the scale of descent. The latter has grown out of the former, and has developed a cell, or the differentiation of an inner kernel, from the surrounding plasma. This cell is an independent individual, and is as distinctly a living creature as man himself. It is the raw material of every organism, which it builds up by the power it possesses of unlimited multiplication, in dividing itself as it grows in size by the matter it imbibes and feeds on. The subject is most complex and interesting; and as the theory of evolution cannot be understood without a more or less intimate acquaintance with

[1] See Haeckel's *History of Creation*, vol. i. p. 92.

the cell process of growth, the reader, if he wishes to understand it, must study the technical writings on the subject.

Before we can appreciate the mechanical or physical processes of growth, we must thoroughly grasp the full meaning and significance of the *Persistence of Force*; for unless we can do this we shall utterly fail to realise any mental picture of Nature's manner of working; and, in fact, the whole subject will be meaningless to us. Force is universal, and is an inseparable property of matter, without which the very conception of existence in any shape becomes an impossibility. This force is the basis of, and underlies all things; and the motions it imparts to the molecules composing a cell persist in that cell, and are inherited by all the cells that grow from it. This inherited power or activity is surrounded by a variety of external forces, and the growth of every organism is the result of the combined action of these forces (heredity and adaptation). The inherited molecular motion, however, shapes the general characters constituting the creature, whatever may be the nature of the environment, unless indeed it be such as to destroy life. But, in the course of long ages, the external conditions may and do modify the inherited tendency to develop on a precise and particular model; and these deviations, imperceptibly small it may be at first, being inherited by the offspring, become so great in the course of long ages, that entirely new species are produced. "Adaptation, through practice and habit, to the changing external conditions of life, has ever been the cause of changes in the

nature of organic species; and Heredity caused the transmission of these modifications to their descendants."[1]

The chief difficulty in realising this great truth is in our inability, as a rule, to make due allowance for length of time. We are so apt to couple the infinitesimal span of our own lives with all our thoughts of time, and to make the few years of our existence the measure of all things in Nature, that it is no easy matter to subordinate the limited personal experience to the almost unlimited ages required by evolutionary changes.

Time, though of great consequence in the life and well-being of man, is of no importance to Nature. Her circle of operations completed, in any department, she begins anew; or rather, she continuously travels round the circle, without beginning or end. The individual organism being ended, the material is again served up for consumption to the living world, either as raw material or as dead protoplasm, the former supplying the vegetable and the latter the animal kingdom; and so on, without break or end, from the imperceptible to the phenomenal, from the phenomenal back to the imperceptible. The unthinking opponents of evolution are continually asking for data from human history; and finding that human history can supply none, they have no alternative but to reject the theory, as incompatible with all that lies within the range of *their* knowledge. The longest periods of history furnish us with little or no evidence of the changes which evo-

[1] *Evolution of Man*, vol. i. p. 85.

lution supposes, for the simple reason that the records of civilized man embrace but a mere fraction of the time required by Nature to work any specific and decided change. But while direct evidence from ordinary historical experience fails us, palæontology comes to our aid, and supplies us with the materials necessary for tracing back the history of the changes to the remotest secular times.

This evidence is written in the Book of Nature, which cannot lie; and in characters which cannot deceive us. All mere written records of experience are full of misrepresentations of various kinds: some directly due to wilfully false statements; others to the ambiguity and ever-changing meaning of language, to the personal standpoint of each individual narrator, to the continuous changes in customs, thought, feelings, and a variety of other causes; but in the great Book of Nature lie embedded the permanent and, to us, unchanging records of her long history, the same to-day as they were thousands of years ago, and will be thousands of years hence, when the patient student will still be reverently turning her leaves in pursuit of that knowledge and truth which *she alone* contains, and which *she alone* can unfold to man.

> "To the solid ground of Nature
> Trusts the mind that builds for aye."

It may be appropriate here to say a few words on the law of growth. It will assist us to a better comprehension of our subject. The late James Hinton formulated the law of growth, as motion along the lines of least resistance. And this is no doubt true

of every conceivable form of growth in the organic world. This simple, though important and suggestive, generalization he put in the form of a syllogism, thus :—

"Organic form is the result of motion." "Motion takes the direction of least resistance." "Therefore organic form is the result of motion in the direction of least resistance."

Illustrating this by plants, he says :—

"The formation of the root furnishes a beautiful illustration of the law of least resistance, for it grows by insinuating itself, cell by cell, through the interstices of the soil; it is by such minute additions that it increases, winding and twisting whithersoever the obstacles it meets in its path determine, and growing there most, where the nutritive materials are added to it most abundantly. As we look on the roots of a mighty tree, it appears to us as if they had enforced themselves with great violence into the solid earth. But it is not so; they were led on gently, cell added to cell, softly as the dews descended, and the loosened earth made way. Once formed, indeed, they expand with enormous power, but the spongy condition of the growing radicles utterly forbids the supposition that they are forced into the earth. Is it not probable, indeed, that the enlargement of the roots already formed may crack the surrounding soil, and help to make the interstices into which the new roots grow?"

The same remarks apply to every part of the growing plant above ground : only that instead of the resisting medium being the earth, it is the air. The inherited inner constructive force of the organism sucks in the surrounding matter, on which it feeds, converting it into cells; and then being added to the organism, constitute its growth and enlargement. This hereditary power of growth, extending the parts in all directions, is met by the resistance of the atmosphere; and the direction taken will at

all times be that in which the least resistance is offered. It is true certain allowances must be made for gravity. The same remarks apply to animals.

Now, if all organic forms are determined by the operation of these two factors alone—viz., the transmitted constructive internal force or power of growth and the external conditions, it is certain that the forms will vary as the factors vary. The external conditions of existence are unlimited, and consequently there are no limits to the variations of organic forms. The morphological changes act upon the inherited tendency to stability of structure, and produce therein corresponding changes, which become fixed in the organism, and are transmitted to descendants. Between the two there is a never-ceasing interaction; one striving to preserve the specific form, the other to modify and alter it. It is inevitable, therefore, that in the course of long ages many forms must of necessity arise by the constant interaction of these forces; and that these forms, while apparently exhibiting marks of design, are in reality the results of purely mechanical causes, the principle of which negatives the idea of all purpose or design.

There is a strong power in Nature to preserve what once has come into existence, and if the external conditions never varied during the life of an organism, there would be no variation in the form, and consequently none to transmit to the descendants. The inner formative tendencies are so strong and persistent, that if they were not met by external forces varying in character and intensity from time to time, the species would be preserved in one un-

varying form ; and, in fact, neither the animal nor the vegetable world could have arisen. It is useless to ask for an explanation of the power of Nature thus to impart within living matter this strong tendency to preservation of uniformity of structure. There is no explanation, beyond the persistence of force, which must be postulated as an inseparable part or property of matter. We cannot get behind this, any more than we can get behind matter itself. We must perforce rest content with the phenomenal fact of existence. Were it not for the preservation by inheritance, possessed by every organism, all things would soon revert to a state of chaos.

To return to some of the evidence supplied by palæontology, or petrifactions. It is from a study of the petrified remains that we get some of the most convincing proofs of the truth of organic evolution. As the animals have died, they have fallen through the water into the soft mud, and become petrified in the hardened strata. And, in this way, the different strata of the earth's crust are made to yield for our information the different species existing at the time of each formation. It is true that these remains are of the most imperfect character ; and at no period is it possible to discover more than a mere fragment of the numerous kinds that must have lived at the time. But research has only, as it were, just begun ; and we may hope, as time goes on, that patient labour will bring to light more and more of these petrified remains. Every fresh discovery helps to fill up a gap, and supplies a link in the chain of descent ; and every such discovery has afforded further confirmatory evidence of the great law of universal

development. No facts have come to light in palæontology which are not legitimate deductions from the theory of descent; and they all fit in exactly with the conditions necessary and appropriate to their special period.

The geological record, owing to its historical character, is of the greatest importance. Modern geology shows that the crust of the earth has been slowly and gradually evolved through long ages. Since the time when the watery vapour was condensed into liquid water, there has been going on a continuous re-distribution of land and water all over the surface of the globe. Every foot of the sea floor has been at times dry land, and every foot of dry land has been at times the bed of the ocean. The causes which have produced these re-distributions of land and water are going on every instant of time to-day, as they were in the past. Everywhere the sea is either approaching towards or receding from the shore; and it is literally correct to say that the outlines of seas and continents never remain for a minute of time exactly the same. The floors of seas are continuously rising by deposits, whilst dry land is at the same time on the road towards re-submergence, by the action of the waves, as well as that of rain, which washes down the earth from the highest mountains.

We know that in many places the sea has encroached many feet within the lifetime of man even. The writer was informed by an old inhabitant of Deal that, in his early days, hay was made between the sea and Sandown Castle—a space which is now quite under water. To fully realise the great changes

effected by long periods of time, we have but to consider that, if within a century there is a difference in the rise and fall of only an inch or two, in the course of a few million years this would bring about a complete re-distribution of land and water over the entire globe. And in the earth's history millions of years are but as days or hours to us. In the course of time, the mountain masses that are carried down to the sea would level the whole earth, and the entire surface would be covered with water, were it not for the volcanic action of the fiery fluid mass in the interior. This surging fluid, pressing against the hard crust, causes elevations and depressions which counteract the levelling tendencies of the water. And for many millions of years, since, in fact, earth and water first appeared, there has been going on an incessant struggle between the two for mastery—now dry land, now sea, and again dry land, and so on perpetually. The formation of the earth's crust, and the transformation of land and water, are explained in Charles Lyell's *Principles of Geology*. In the different strata thus formed lie embedded the remains of previously living organisms.

Now, if it be true that the earth's crust has been slowly and gradually formed during immense periods of time, and that the remains of animals are found in the deepest strata, the law of descent would require that the deepest strata should contain the remains of the most imperfectly developed organisms; and that as we rise towards the surface, a proportionate increase in development, perfection and variety of structures should be found. If life on the earth began millions of years ago, at a time when the con-

ditions of condensation were appropriate to its production, and all the multitudinous forms have been slowly evolved from structureless primitive creatures, then it is an inevitable necessity that progress in organic development should go on step by step with progress in inorganic formation. *And this is exactly what we find to be the case.* Of course we have no petrifactions of the soft, structureless organism of the early times, for the simple reason that preservation of such unstable masses was impossible. It is not until some stability of structure is attained that we find fossils.

Regarding these fossil impressions, even as far back as five hundred years before Christ, Xenophanes of Colophon declared them to be remains of previously existing living creatures; and though other great teachers of mankind have from time to time regarded them in the same light, they have, until the present century, been rejected or disregarded by the majority of scientists. It was chiefly in order to account for these petrifactions that Cuvier invented his series of Creations, following upon what he believed to be great catastrophes of Nature, in which whole species of animals were destroyed. Cuvier was far too great a man to give any countenance to the crude and absurd notions entertained by many respecting these important evidences of creation. His theory, that from time to time great cataclysms had occurred, which had destroyed whole species, and that the Creator had, at such periods created entirely new species, accounting for the petrified remains of different species, appearing at different depths of the earth's crust was put forward,

no doubt, to save the biblical narrative of creation. But when Lyell published his great work, in which he showed how the earth's crust has been slowly formed by imperceptible degrees, Cuvier's theory was no longer tenable, and by common consent has long been abandoned for the true one.

To preserve the Mosaic account the most incredible theories have found favour from time to time. Many believed, or pretended to believe, that fossil remains of animals were simply "freaks of Nature," whatever that might mean. That Nature should resort to such "freaks" as forming in the solid layers of rocks the various parts of animals, is surely too far-fetched for even the most uninformed and credulous minds. Others believed that they were models made by the Creator in inorganic substances, and afterwards executed in organic substance, into which he breathed the breath of life. Others, again, held the still more absurd and crude notion that there existed in Nature a special "seminal air," which, penetrating into the earth with water, fructified the stone, and produced a kind of "stony flesh." Every explanation which, however remotely, seemed to agree with the Bible was greedily swallowed and tenaciously held on to, until the common sense of mankind, if not more accurate knowledge, eventually asserted itself, as it always does sooner or later, and rendered the continued acceptance of such explanations an impossibility.

Cuvier's theory of catastrophes and new creations could not be refuted scientifically so long as the true processes of formation of the earth's crust were unknown. But the moment it was proved that the

stratified rocks were the results of millions of years of slow and gradual deposits of soft mud, the true nature of organic petrifactions became obvious, and no amount of ecclesiastical or other opposition could prevent the spread of the great truth. It was no longer any use to talk of "freaks of Nature," "seminal air," "rude models," etc.; the advance of knowledge, and the consequent refutation of ignorant dogmatic assertions, produced a revolution in public thought, and such crude notions could no longer be tolerated. The progress of knowledge brings about those gradual changes which eventually kill every untruth ; but the death is always slow and imperceptible. Nothing could possibly be more grotesque than to imagine the Creator of the Universe working on this tiny speck of earth like a mere man, modelling his creatures in clay to *see how they looked*, and to enable him to select the most becoming form before finally constructing them in another and superior substance ; and then leaving his rude and imperfect models embedded in the *débris* of each cataclysmic epoch.[1] Such a conception one would think too gross even for the most backward and barbarous races. And yet, even now, a large number of men, and a greater number of women, are under the moral domination of a class whose ideas are little in advance of these gross and vulgar conceptions of the Infinite, and who loudly proclaim their right to be the teachers and instructors of the public mind. The life of an error is generally proportionate to the greatness of the name of its promulgator ; hence every authority, as an authority, should pass away. It was entirely

[1] As Burns said, "trying his prentice hand."

owing to the great influence exercised by Cuvier for so many years that the doctrine of Descent made so little progress from the beginning of the present century until the appearance of Darwin. by whose immortal discovery it is really proved.

The science of palæontology proves the theory of evolution in a manner so conclusive, that it is impossible for any one who has well considered the facts to entertain any doubt on the subject. Only near the surface of the earth do we find any remains of highly-developed animals, or those belonging to the mammalian class. And the nearer we get to the surface, the more nearly do we find the fossil remains correspond to the species now in existence. Zoologists have no great difficulty in deriving present species from those now extinct, which are found in the stratified rocks lying near the surface ; and the deeper we penetrate the more primitive and simple in structure are the petrified remains, and the farther removed from the still living kindred species.

These facts were recognised by Cuvier in his work *On the Fossil Bones of Vertebrate Animals*, though, as we have seen, he explained them by his erroneous supposition of a series of catastrophes and new creations. Had he lived to benefit by Lyell's labours, he would undoubtedly have recognised and acknowledged the truth of the doctrine of Descent.

"The theory of Descent, according to Lamarck and Darwin, as a great inductive law, and indeed the greatest of all inductive biological laws, is in the first place based on the facts of palæontology, on the modification of species brought to light by the science of petrifactions. From the conditions under which these fossils or petrifactions are found buried in the rock-layers of

our earth, we draw the first sure conclusion that the organic population of the earth, as well as the crust of the earth itself, has been slowly and gradually evolved, and that series of diverse populations have successively appeared at different periods of the earth's history. Modern geology shows us that the evolution of the earth has been gradual and without total and violent revolution. Comparing the various plant and animal creations that have successively appeared during the course of the earth's history, we find, in the first place, that an increase in the number of species has been constant and gradual from the earliest to the most recent times; and, in the second place, we perceive that the increase in the perfection of the forms belonging to each of the larger groups of animals and plants is also constant. For example, the only Vertebrates existing in the earliest times are the lower Fishes; then the higher kinds of Fishes, later Amphibia appear; still later, the three higher classes of Vertebrates, Reptiles first, then Birds and Mammals; of these, only the most imperfect and lowest forms appear first; it is only at a very late period that the higher placental Mammals appear, and among the latest and youngest forms of the latter is Man. Both the perfection of forms and their variety originate, therefore, only gradually, and in a period extending from the oldest time to the present day. This fact is of great importance, and can be explained only by the doctrine of Descent, with which it perfectly agrees. If the various groups of plants and animals had descended one from another, then such an increase in number and degree of perfection as the series of fossils actually exhibits must necessarily have occurred."[1]

And, again, in this connection Professor Romanes says :—

"The first of these general facts is, that an increase in the diversity of types, both of plants and animals, has been constant and progressive from the earliest to the latest times, as we should anticipate that it must have been on the theory of Descent in ever-ramifying lines of pedigree. And the second general fact is, that through all these branching lines of ever-multiplying types, from the appearance of each of them to their latest known conditions, there is overwhelming evidence of one great law of organic nature

[1] Haeckel's *Evolution of Man*, p. 106.

—the law of gradual advance from the general to the special, from the low to the high, from the simple to the complex."[1]

Now, if we could suppose an Infinite mind to have watched from the beginning this process of organic evolution—this building up, so to speak, of the living world from the primitive atoms—to that mind there would appear but one continuous, unbroken activity, resulting in addition and subtraction of the molecules so constant and minute that from the Moneron up to Man not a single point in the long series would indicate either the beginning or the end of one of all the millions of species that have existed. Not one condition in organic transformation could be pointed to as a distinguishing characteristic of the end of one species or the beginning of another, or of the merging of one species into another. The transmutation has been so gradual, so minute and slow, so imperceptible, that it could only be by separating the process by long periods of time that alterations sufficiently important to constitute new species, would be observable.

One of the strongest supports of the mechanical theory of Nature is the well-established fact that in nearly all animals and plants there are what are called rudimentary or suppressed organs. In all the higher organisms these disused organs are found. They perform no function, serve no purpose whatsoever, and are perfectly useless. They have always been a stumbling-block to naturalists who believe in the "design" theory of creation.

[1] *Darwin, and After Darwin*, vol. i. p. 162.

Among vertebrates the rudimentary organs are numerous, and the only possible explanation of their presence is the doctrine of descent, which not only accounts for their existence where found, but makes such existence in certain stages an absolute necessity. It is well known that if you cease to use a muscle it will get weak and dwindle away. Put your arm in a sling, and keep it there for a long time without using it, and it will begin to lose its strength and wither, and continued disuse will cause it to become quite powerless. Now in the gradual process of development, the altered external conditions of life produce modified desires and necessities, and these acting upon the organism bring into more active operation certain organs, while others are relieved of the work in proportion. The former will develop and grow, while the latter will decrease in size, and ultimately vanish altogether.

In man, as well as in all other animals, the remains of organs once performing useful functions, but now doing no work whatsoever, are found in different stages of degeneration. The disuse and slow disappearance of organs no longer required owing to the altered condition of the environment on the one hand, and the development of other organs necessitated by those altered conditions on the other, are among the factors which bring about the transmutation of species, and are the immediate causes of the most widely divergent animal forms. The gradual disappearance of the no longer required organs and the rise of the new can be traced through various species of mammals up to man. It is a slow, steady, morphological change which is never stationary and

never very rapid, though in earlier periods of the earth's history, when heat and moisture were greater than at present, and growth was correspondingly more active, the change of structure was probably very much quickened. At those periods the flora and fauna were gigantic as well as numerous.

The subject of rudimentary organs is of the very greatest importance to the theory of Descent. Assuming the truth of the theory, they are natural and inevitable; accepting the "plan of structure" theory, they are useless, unnatural, and altogether unaccountable. Can anything be more childish and absurd to the thoughtful mind than the explanation given by the opponents of evolution—that the Creator made the useless organs "because he saw they were good for the purpose of beauty and symmetry"? They are the very reverse of symmetrical, and, as to their "goodness," they are in some cases a source of danger to the organism. The fact that they are gradually eliminated by disuse and structural progress is in itself a refutation of the "symmetry" theory. If organic evolution had to stand or fall on rudimentary organs alone, they are sufficient in themselves to satisfy every competent enquirer of the truth of the doctrine. We might almost venture to say that *no unbiassed* mind could study the subject long without coming to the conclusion that all rudimentary organs at one time served a useful and necessary purpose, and that their presence in every organism is a living proof of structural modification and progress—a living proof, that is, that the organism in which certain disused organs exist is closely allied to that in which they are found per-

forming useful and necessary functions, and that both have sprung from a common ancestor.

"Throughout both the animal and vegetable kingdoms we constantly meet with dwarfed and useless representations of organs, which in other and allied kinds of animals and plants are of large size and functional utility. Thus, for instance, the unborn whale has rudimentary teeth, which are never destined to cut the gums; and throughout its life this animal retains, in a similarly rudimentary condition, a number of organs which never could have been of use to any kind of creature save a terrestrial quadruped. The whole anatomy of its internal ear, for example, has reference to hearing in air, or as Hunter long ago remarked, is constructed upon the same principle as in the quadruped."[1]

Another great line of evidence, and perhaps the most important of all, is that of Embryology.

We have seen that in the beginning of organic life on the earth, Nature produced from the "original slime" the cell—a minute creature, containing the vital properties of an independent living being, and from which all forms have been developed.[2] The beginning of every individual life is, in like manner, a cell; and as this cell grows by the addition of other cells, it takes on at the various stages of its embryonic growth and formation the embryonic forms through which its ancestors have passed. This does not mean that the embryonic phases in the development of a higher organism necessarily resemble so many adult stages of a lower organism. As Professor Romanes says :—

[1] *Darwin, and After Darwin*, p. 65.

[2] For the distinction between Protozoa and Metozoa, *i.e.* uni-cellular and multi-cellular organisms, see Romanes' *Darwin, and After Darwin*.

"This may, or may not, be the case, but what always is the case is, that the embryonic phases of the higher forms resemble the corresponding phases of the lower forms. Thus, for example, it would be wrong to suppose that at any stage of his development a man resembles a jelly-fish. What he does resemble at an early stage of his development is the essential or ground plan of the jelly-fish, which that animal presents in its embryonic condition, or before it begins to assume its more specialized characters fitting it for its own particular sphere of life. . . . The comparison, therefore, must be a comparison of embryo with embryo, not of embryos with adult forms."

When the egg-cell (in man about $\frac{1}{120}$ of an inch in diameter) has been fertilised by the male element, it begins to grow by the formation and addition of cells. Let us take the case of man's embryonic formation. In the early stages his embryo resembles that of one of the lowest creatures, and could not be distinguished from it; as he progresses differentiation takes place precisely similar to that which occurs in the embryo of any of the other higher animals—those of the fish, the reptile, the bird, and the beast being exactly the same in appearance as man's, as it passes through those stages. At last it takes on the characteristic features of the mammal, and is finally completed in the human form. To quote Professor Romanes again :—

"Now, if the theory of Evolution is true, what should we expect to happen when those germ-cells are fertilized, and so enter upon their severally distinct processes of development? Assuredly we should expect to find that the higher organisms pass through the same phases of development as the lower organisms, up to the time when their higher characters begin to become apparent. If in the life-history of species these higher characters were gained by gradual improvement upon lower characters, and if the development of the higher individual is now a general recapitulation of

PLATE II.

Double plate, between pp. 64 *and* 65.]

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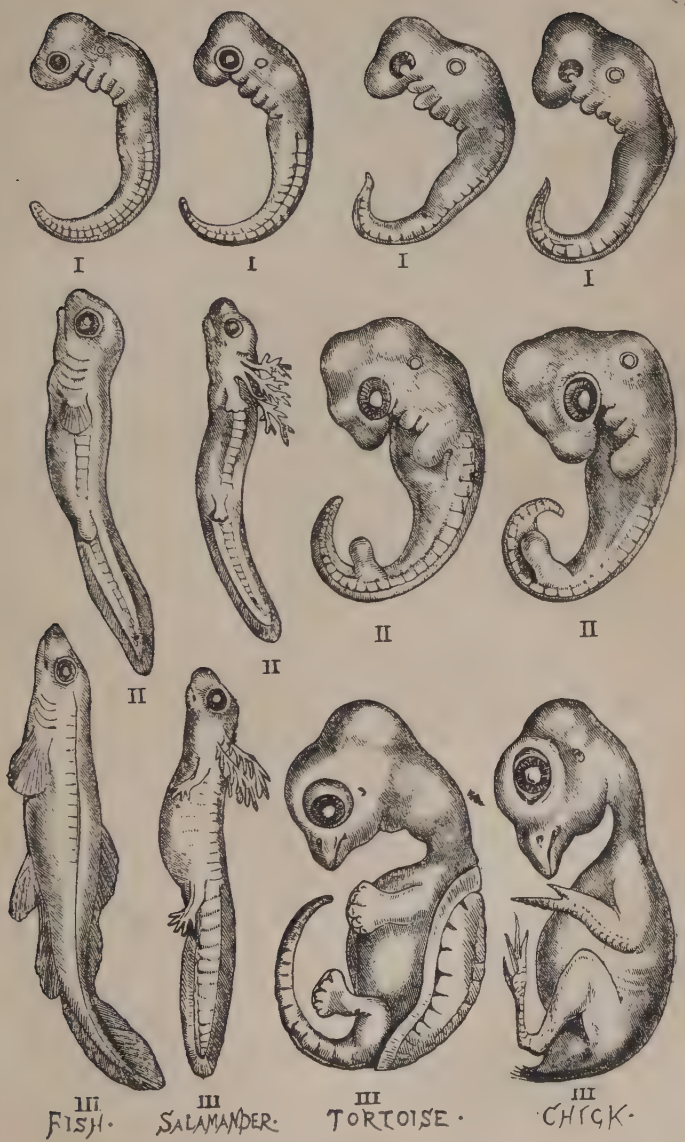
PLATE III.



that of its ancestral species; in studying their recapitulation, we should expect to find the higher organism successively unfolding its higher characters from the lower ones through which its ancestral species had previously passed. And this is just what we do find."

This is admirably and concisely expressed.

In the interior of the germ-cell is a nucleus, and around the cell a rind with minute openings or gateways. We shall the better realise and appreciate the marvellous mechanism and operations of Nature, if we consider that the whole of the cell containing this complex structure is almost too small to be seen with the naked eye. When fertilization takes place, the male element, in the shape of microscopic tadpoles, finds its way through the opening or gateway of the cell-rind, and fusing with the nucleus inside, the two form the foundation, as it were, of the future being. It is a most remarkable fact that the male pronucleus (too small to be seen without magnifying power) seems to know where to find the gateway leading to the abode of the female pronucleus, and that as soon as he enters her domain she advances to meet him, when they coalesce, and thus supply the two elements—male and female—necessary for the formation of an organic being.

Now, what I wish particularly to point out is, that in so-called birth and growth the continuity of Nature is unbroken, reproduction and growth being one and the same process. Nature in the beginning of organic existence on our planet elaborated living matter from inorganic matter, and has, we must believe, gone on doing so ever since. The unit of construction she has elaborated from structureless

protoplasm in the shape of a cell, and as every living thing begins to form and grow from a cell, so does it take form and grow by the addition of other cells merely. So that we are nothing more nor less than a multiplicity of cells ; and all the powers we possess are the aggregate of the individual power possessed by the individual cells composing us.

We should notice in this connection, though we make no point of it, and draw no conclusions from it, that it is held to be not an impossibility in Nature for a virgin to conceive and give birth to a child. Whether this be so or not we cannot say. At all events, Professor Romanes and others think it, under certain abnormal conditions of ovulation, quite within the range of possibility. He says :—

"It has already been stated that both parthenogenesis and germination are ultimately derived from sexual reproduction. It may now be added, on the other hand, that the earlier stages of parthenogenesis have been observed to occur sporadically in all sub-kingdoms of the Metazoa, including the Vertebrata, and even the highest class, Mammalia. These earlier stages consist in *spontaneous* segmentation of the ovum ; so that even if a virgin has ever conceived and borne a son, and even if such a fact in the human species has been unique, still it would not betoken any breach of physiological continuity. Indeed, according to Weismann's not improbable hypothesis, touching the physiological meaning of polar bodies, such a fact need betoken nothing more than a slight disturbance of the complex machinery of ovulation, on account of which the ovum failed to eliminate from its substance an almost inconceivably minute portion of its nucleus."

Few species differ more from one another in form than man differs from the hog, calf, and rabbit, for example, and yet the human embryo, as may be seen from Plate II., in the early stages is scarcely

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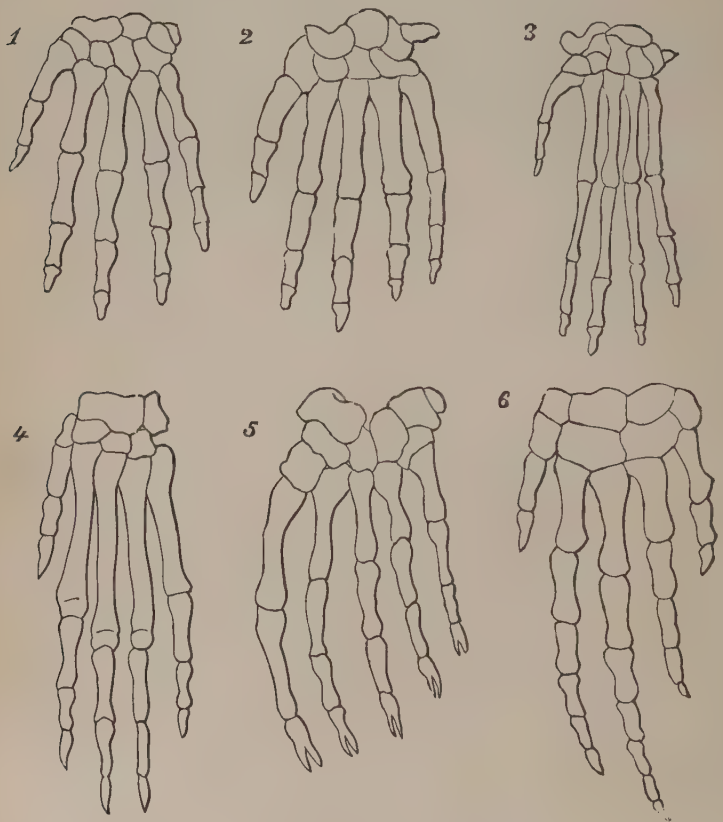
Plate IV.

Hand of Six different Mammals.



1, Man. 2, Gorilla. 3, Orang. 4, Dog. 5. Seal. 6, Porpoise.

[*Face page* 67.

distinguishable from the embryos of those animals. Let the reader carefully compare these four vertebrates in their three stages of evolution, and ponder on the lessons they teach.

Plate III. represents the embryo of two of the higher, and two of the lower vertebrates in their different stages: a fish, an amphibian (land-salamander), a reptile (tortoise), and a bird (chick). Between a chick and a fish there is certainly very little resemblance indeed; but, when they begin their lives, the agreement in all the most important relations of form is almost complete.

These plates, with the explanations, are taken from Haeckel's *Evolution of Man.*

These illustrations will perhaps suffice to show that animals the most diverse in form—man included—in germ life, have a common origin; and we shall see presently that though they differ so remarkably in outward form and appearance, the internal resemblance is, to a great extent, preserved. To those who have not studied the subject, it is quite inconceivable that between the hand of man, for example, and the fore-feet of any four-footed animal there should be a similarity of structure, since in outward formation there is not the slightest resemblance. Between the hand of man, and that of the ape we should naturally expect to find very little difference in structure and number of bones, as they correspond so nearly in outward configuration; but I apprehend the general reader will be somewhat astonished, on comparing the skeleton of the hand and fore-feet of the six mammals in Plate IV., to find how nearly they resemble one another.

By the different uses to which they have been accustomed through long ages some bones have become longer, others shorter; but the identity of structure still remains, showing most conclusively a common origin. Throughout the different orders of mammals the similarity of internal structure with that of man is manifest and unmistakable, and, taken in connection with a multiplicity of other facts, we are irresistibly driven to the conclusion that all these orders have come from a common ancestral form. Of all the numerous facts pointing to this conclusion there is no possible explanation otherwise of any single one; whereas the theory of Descent is a perfectly natural and simple explanation. With it, every single fact in the whole history of animal economy exactly fits in, and is indeed the inevitable and unavoidable result. I do not think it is an exaggeration to say that nearly every known fact in biological science is a necessary deduction from the law of Evolution; as much so as eclipses and the phases of the moon are deductions from the astronomical laws, though of course the former do not admit of exact scientific demonstration.

No part of Nature's processes is more instructive, or deserves greater consideration than the embryological formation or development of man, from the single cell through all the ancestral forms, in the short space of forty weeks. His ancestral life, reaching back to the single-cell form, must be computed by *many* millions of years; and the number and variety of forms through which he has passed in his upward course are many and complex. That this immeasurably long process of transformation

from the single cell to complex man, should be repeated, in the main features, during the short period from conception to birth, is of the most important and extraordinary significance, and is utterly meaningless and unaccountable except on the principle of evolution.

For an immeasurable length of time before life of any kind appeared, the earth was in process of making. Millions of years must have elapsed before it attained to the condition favourable for the production of living matter ; and again a period of time, too great for our conception, must have passed from the first appearance of life to that of speaking man. A sort of rough estimate has been formed of the great periods of rock deposits in which petrifactions are found ; but they are necessarily very vague and uncertain as to time, thousands of years being but as minutes in our lives, in the whole organic history of the earth. Of one thing, however, we are quite certain, viz., that the period during which this world has been the home of man is so small that it is almost as nothing compared with the enormous length of time during which life was slowly developing and building up the organic structure that preceded man, and out of which he has grown.

As man prides himself upon being the sole object for whose special benefit all things have been brought into existence—sun, moon, planets, stars, animals and plants—we shall do well to reflect upon the undoubted facts, that long before he appeared on earth—so long that millions of years are but as short periods compared with our lives—it was a

globe, moving round the sun as it now moves, and that for almost countless ages before his advent it was the home of animal and vegetable life. And for infinite ages after he finally disappears, together with every form of life, as we know it, it will continue in its course, bringing day and night, sunset and sunrise, winter and summer, autumn and spring, as it now does, though perhaps in diminished contrast. If man is the prime object in the Universe, and for him alone all things have been created, no matter how, what is the meaning of his comparatively short occupancy of the home that has been specially made for him? Why was it occupied for all those ages by the lower animals only? And above all, why does it exist in solitary silence, with no living thing upon it, for a series of years compared with which the life of our race dwindles to a small span indeed?

These are questions which should well give us pause in our pride and arrogance, in our assumption that for us alone universal power, unlimited in time and space, should have been exerted. Let man reflect upon the utter insignificance of the small speck of matter he is permitted to occupy in this vast Universe, upon the mere moment of the life of his race even, compared with the total of animal life; and, above all, upon the merest fragment of a a fraction of secular time comprising his individual life; and then ask himself the questions that, if for him alone Universal Nature exists, what does it all mean? What is the *rationale*? Why this mighty waste of time, power and material, if creation has been specially and solely designed for him? Why

is his home but a mere insignificant speck among countless myriads of vastly superior bodies in the abyss of the Universe? Why the untold ages, during which millions of bodies, the earth included, have existed and will continue to exist, without any vestige of life, animal or vegetal? Will man answer these questions by saying, "For *me*, for *me* alone, and my little space of life, the mighty fabric of the Universe exists"? For the thoughtful mind there is surely a different answer.

No part of evolution is perhaps so important and interesting to man as that which treats of his emergence from his immediate brute ancestors, and the development of speech and reason.

On this point there is much confusion of thought in the public mind; and even writers and others who occupy considerable positions in public estimation are continually demanding proofs, which plainly shows that they have not grasped the meaning and principle of evolution. It is quite a common belief that Darwinism means the development of man from the existing anthropoid apes, and that in course of time these apes will also develop into men; and they ask that man should be cultivated from the gorilla, orang, chimpanzee, or gibbon. It is needless to say that neither Darwin nor Huxley nor any other responsible scientist ever said anything of the kind. On the contrary, they are one and all unanimous in asserting the impossibility of any of these apes being among the ancestors of man.

These four apes and man are all distinct species, and have developed along different lines, from common ancestors. They are cousins to one

another, all five having descended from some as yet undiscovered progenitors.

Even for the uninitiated, who possess no anatomical knowledge whatsoever, it is impossible to study and compare the five figures in the plate without being strongly impressed with the belief that they are all nearly related to one another; and that if man has been made in the image of his creator, so also have these four apes. To the anatomist the proofs of blood relationship are conclusive; and for a detailed account of them I would refer the reader to Professor Huxley's *Man's Place in Nature*, where he will find the whole subject minutely and exhaustively considered, according to the best knowledge we possess. We may, however, briefly mention here some of the most important points of resemblance between man and his ape cousins. No part of Evolution possesses so much interest for the general public as man's connection with the man-like apes. This is only natural, since to the most skeptical and unbelieving, the resemblance is striking, not to say startling and impressive; and in spite of all prejudice and hatred, due especially to early theological training, the conviction insensibly and irresistibly steals upon us that between ourselves and the most highly developed of the apes there is indeed some mysterious and close relationship.

The law of development proves that, far back in the past, there existed a tribe of animals which, in their upward course from lower forms, had approached somewhat towards the human form. They are known as the Catarhine, or narrow-nosed apes, and from them have descended, in five different

PLATE V.

1, Gibbon. 2, Orang-Otang. 3, Chimpanzee. 4, Gorilla. 5, Man.

[*Face page 72.*

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streams, man, gorilla, orang, chimpanzee and gibbon. Each one as it developed along its own peculiar line, improved in structure and grew in concomitant *intelligence*—man outstripping all the others in very large degrees. Before the present perfection of structure in man was reached he passed through many modifications; and the same may be said of his ape cousins. The common progenitor has not yet been discovered; but it is not unreasonable to hope that as palæontological research goes on it may yet be brought to light. "The ape-like progenitors of the human race are long since extinct; we may possibly still find their fossil bones in the tertiary rocks of Southern Asia or Africa," writes Haeckel.

In the long and gradual ascent of man from his ape-like ancestors arose ape-like man, with erect posture, more developed brain, and characteristic differentiation between hand and foot. We may fairly assume that for some time after the outward appearance and form had been reached man was still without language, and in his habits and mode of life almost as brutal as the gorilla of to-day. It ought not to be at all difficult to realise this, when we reflect upon the condition of the Australian and Papuan of the present time, which is only a few degrees removed from that of the apes. If we compare the three degrees of mental power possessed by the apes, the Australian, and the European, we shall find that the difference between the intellectual power of the most developed European and the Australian, is greater than that between the Australian and the anthropoid apes. Between the

highest man and the lowest man there is a greater gulf than between the lowest man and the highest ape.

No other animals, besides man and the four apes mentioned above, possess both hands and feet. The resemblance in structure between our hands and feet, and those of the apes is very striking, as is also the manner of use. In a less degree they use their hands as we do ; and though they have not attained to perfect mastery in the use of their feet in walking, they still are able to use them, independently of their hands, for the purpose of locomotion, with considerable dexterity. The hands and feet in man have been very great aids to his intellectual development ; probably the greatest factors in his evolution towards a speaking, reasoning creature. By the use of his feet he has attained to the perfectly upright posture, the importance of which it is impossible to over-estimate ; and by the use of his hands he has simply become what he is—MAN. The growth of the nervous system and the brain has gone on step by step with the development of the upright carriage and dexterity in using the hands. Between the two there has been a constant interaction, resulting in the gradual evolution of the whole being.

Between man and these four apes there are indeed many points of resemblance proving their common descent and blood relationship ; and among scientific men the question is no longer considered debatable or open to doubt, as indeed the whole theory of Descent may now be considered established beyond the possibility of disproof. Even apart from all other proofs, fossilized remains alone

would be sufficient to justify the acceptance of the theory of Evolution.

While human skulls of a very low and degraded type have been found, hitherto none has been discovered which may truly be said to have belonged to an animal midway between man and his ape progenitors. I think, however, we may say that the Neanderthal skull must have belonged to a being considerably lower in the scale of development, and more nearly approaching the apes than any race of men now living. Respecting this skull, which was found in a cavern "unaccompanied with any trace of human art," Professor Huxley says: "Under whatever aspect we view this cranium—whether we regard its vertical depression, the enormous thickness of its superciliary ridges, its sloping occiput, or its long and straight squamosal suture—we meet with apelike characters stamping it as the most pithecoid of human crania yet discovered." And though it may be, as he says, that "in no sense can the Neanderthal be regarded as the remains of a human being intermediate between men and apes," it is nevertheless quite certain that the Neanderthal man was of a type very much lower down and nearer to the apes than any race of men now living. And this fact alone is as convincing in its way as the actual discovery of the "missing link" itself would be. It is only a question of degree; those who preceded the Neanderthal men and from whom they were developed must have been still more brutal, and therefore less developed and nearer to our ape progenitors; otherwise the doctrine of progressive development would not hold good.

"Where then," asks Professor Huxley, "must we look for primæval Man? Was the oldest *Homo sapiens* pliocene or miocene, or yet more ancient? In still older strata do the fossilized bones of an ape more anthropoid, or a man more pithecoid, than any yet known await the researches of some unborn palæontologist? Time will show."

It is quite possible that this question may shortly be answered, and that primæval man has turned up in the discoveries quite recently made of three skeletons in a cave near Mentone. These human remains are said to be quite a hundred thousand years old; "and that from the formation of their skulls they were of a decidedly degraded animal nature." "The skulls are of a very animal type, almost resembling that of the ape." These remains carry us still nearer to the pithecoid form than any yet discovered; but how much nearer is not at present known, as they have yet to be examined by competent authority. We cannot hope, however, that they will turn out to be the veritable missing link, or sufficiently ape-like and wanting in reason and speech to disentitle them to be classed as *Homo sapiens*; though it would under all circumstances be quite impossible to draw a hard and fast line of demarcation, and say here the ape ends and man begins. In Nature, as we have said before, there are no such breaks or sharp lines; and Man is but a part of universal Nature. If it be found on careful scientific examination that the skulls of these skeletons really resemble that of the ape more nearly than that of man, it is just possible that they may turn out to be the intermediate link between man and the apes.

There is not a single race of men that have not some ape-like characteristics in their anatomical structure. Weisbach says, "*The Ape-like characteristics of Man* are by no means concentrated in one or another race, but are distributed in particular parts of the body among the different races in such a manner that each is endowed with some heirloom of his relationship—one race more so, another less; and even we Europeans cannot claim to be entirely free from evidences of this relationship." This result was arrived at from a careful examination of the different races of men by Scherzer and Schwaiz in their voyage round the earth, and is exactly what we should expect from the theory of Descent. In regard to the skull, the variations from the most savage races to the European are very considerable, probably as great as those existing between the four apes above referred to. Neither of these apes can be said to be absolutely in all respects most like man, but each possesses some particular character in which it stands nearer than the others to man. "The orang stands nearest to man in regard to the formation of the brain, the chimpanzee in important characteristics in the formation of the skull, the gorilla in the development of the feet and hands, and lastly the gibbon in the formation of the thorax" (Haeckel). This again is quite in accordance with the theory of progressive modification, and is a legitimate deduction from it. Those who wish to pursue the interesting subject of man's resemblance to the anthropoid apes will find the fullest information in Professor Huxley's *Man's Place in Nature*.

A comparison of the structural differences and resemblances between these apes and man, on the one hand, amply justifies the conclusion that they are all five the decendants of a common progenitor ; while on the other hand, the achievements of man would seem to contradict such common origin. Our knowledge and works seem to place our race in an exceptional and privileged position ; and it is this consideration which supplies the strongest arguments against the inclusion of man in the scheme of gradual development of organic nature. Why has man so distanced the apes in the struggle of life, if at a period, however remote, he and they had a common ancestor, and began the race on equal terms? When we consider the great achievements of the human mind, we are led to ask, against these what have the apes to show? Nothing, absolutely nothing. Indeed so far as organic social development is concerned they are far below the bees and ants. Such considerations seem, on the face of them, to point conclusively to the view that man is not merely higher in degree than the apes, but that he is altogether different in kind, and is endowed with an intellectual principle having little or no affinity with the intelligence displayed by the rest of the animal kingdom. And if the power of mind possessed by the *very few*, to whose knowledge and discoveries our superior position is due, were common to our race, it would be extremely difficult to accept the theory of Descent as applied to ourselves. For in that case the gulf between us and the apes could not be bridged in thought.

As it is, the slight remove of the lowest races of

men, in point of intellect and social organization, from the apes, offers additional proof, if any were needed, of the truth of our descent. Let us try and imagine what the world would be to-day if it were peopled only by those races. The apes would still dispute with man the supremacy, and the earth would be a wilderness of forest and swamps, containing no vestige whatever of civilized life. The arts and sciences, even in their most primitive state, would of course be utterly unknown ; and the heavens would be as meaningless to the human as to the ape mind. Rising somewhat in the scale of intelligence and coming to civilized man, what a gulf separates even him from the few great intellects on whose discoveries the fabric of all we possess rests ! Nay, we may even take the so-called educated classes, and how many among them possess the gift of mind requisite for advancing in ever so slight a degree, the progress of the race ? Very few indeed. Of all the millions that pass away in a generation, how few leave behind any distinctly valuable work !

The potentialites of mind, with slight variations, in the educated and the uneducated alike, are about equal among civilized men, and perhaps not more than one in every five thousand or so is capable of understanding the great currents of thought which shape progress ; and yet in ordinary speech and outward bearing the master-mind is not to be distinguished from the million. If it had not been for the few great poets, philosophers and scientists, where would the world be to-day ? Probably in a condition little better than that described above.

To the very few great master-minds of the world,

then, we owe our knowledge and progress, and consequently our vast superiority over the apes; and yet the aborigines of Australia, who are so near to the apes, just as distinctly belong to the family of man as do the greatest of men. Between the condition of the ape world and that of the lowest races there is, beyond all comparison, less difference than between the latter and civilized communities. If the savages are nearer to the apes in intellectual power and endowments than they are to a Darwin or a Shelley, while possessing brains approximating so nearly to those of the latter, and yet differing but slightly from those of the former, surely it is not difficult to understand if growth in quality and quantity of the brains is the main factor of human development, how the most highly endowed men may have been slowly evolved from ape-like ancestors. The great marvel is that such vast results should be dependent upon a few more brain cells conglomerated and more closely packed in that organ. And if the growth of brain goes on in the future as as it has done in the past—and why should it not?—the destiny of the human race on the earth is probably infinitely greater than the most far-seeing and luminous minds can form any conception of. Talk of the federation of the Nations as an idle dream of the philanthropist and thinker! Let us picture to ourselves the savage roaming his forests and swamps, and the astronomer in his study mapping out the heavens, weighing and measuring the stupendous bodies away in the infinite depths of space, and calculating their movements and velocities to the smallest fraction in time and space, and then

limit, if we can, the possibilities of the human mind in the ages to come.

Such considerations as these effectually dispose of the arguments against evolution supplied by the progressive character and attainments of man, and the stationary condition of the lower animals, so far as man's limited experience in time goes. There is, however, now every reason to believe from the latest researches that, at least, some of the lower creatures progress in communal arrangements. We know that ants have an elaborate social organization as complete in its way as any human community. Bees have the same; and if it were possible to observe closely their daily lives we should, no doubt, find that they discover new methods of attaining their ends, and modify, improve, and progress in many ways. The interesting labours of Sir John Lubbock have made us acquainted with many astonishing facts in the ant world, the mere mention of which only a few years ago would have been treated with contempt and ridicule by the wiseacres.

CHAPTER III.

DARWINIAN THEORY.

Down to the time of Charles Darwin, organic evolution rested upon observed facts only; and although they formed so overwhelming a mass of evidence as to bring conviction of the truth of the theory to the great majority of students, it was reserved for this truly great man to discover the actual law of Nature by which organic evolution is proved, and on which it scientifically rests. From the uniform recurrence of observed facts we may infer a regular order of Nature ; but until we have discovered the *reason* of that uniformity, we can never be certain that it is necessitated by what we call a law of Nature. In other words, until we know the causes of effects we are ignorant of their laws.[1]

To Darwin is due the great and imperishable glory of having discovered the natural causes which are at work in the formation of organic nature. We should not omit to mention here that another great naturalist, Mr. Alfred Russell Wallace, shares this glory with Darwin, inasmuch as he also made the discovery at the same time that Darwin did, and both were published sumultaneously. If we do not mention Mr. Wallace again, it is not that we

[1] In the first chapter of Professor Karl Pearson's *Ethic of Free Thought* the reader will find this subject very ably treated.

would not render to him the honour which is his due. Indeed, Mr. Wallace's name is well known in other fields of enquiry—notably his contributions to the solution of the great and important problem of Land Nationalization.

It was long known to breeders of animals and cultivators of plants and flowers that great modifications and improvements could be effected by careful selection. If a certain peculiarity of form was required in any animal, the breeder selected for breeding those which exhibited this peculiarity in the most marked degree ; and those again of their descendants and others in which it had appeared most pronounced and developed. And this process, continued through a number of generations, it was found that the changes which could be effected were practically unlimited.

Similarly in regard to flowers and plants, the seeds, etc., of those that possessed the required modifications of colour, form, etc., were carefully selected for sowing or planting ; and this process, continued over a long period, it was proved that almost any results could be obtained. Witness the varieties in size and appearance of the horse, the dog, the pigeon, etc., in the animal kingdom, all due to artificial selection by the breeders. And, in the vegetable kingdom, we need mention only one example —the rose. Everybody is familiar with the fact that the immense number and great perfection of the different kinds of roses are due to selection and cultivation. But the subject of artificial selection in breeding animals and cultivating vegetable products is so well known that we need not dwell further upon it.

Darwin knew, even from the labours of his predecessors, that the transmutation of species was brought about by inherited modifications ; the *facts* of evolution proved this, no less than the familiar experiences of artificial selection. And the task he set himself was to discover if there were any operative principle or power in Nature analogous in its action, so far as results were concerned, to the selecting process performed by the mental purpose of man, which would account for and explain the origin of species. He knew, of course, that if any such existed it could only be found in those physical activities of the widest and most comprehensive character, *in the mechanical laws of purposeless necessity.* In his quiet Kentish home, in the beautiful and secluded village of Down, after years of deep study and reflection, the great thought took shape and definite form ; and the result was the widening of human knowledge by the discovery of a law, the very existence of which had scarcely so much as ever entered the mind of any human being before ; and which Kant, only a few years previously, had declared to be beyond the range of science, and conceivability—maintaining that the only possible explanation of organic growth and formation was the direct intervention of an ordaining and Infinite Mind.

In the history of Man it is perhaps the one grand exception to the ancient saying that, "there is nothing new under the sun." The germs of nearly every great discovery can be traced back almost indefinitely, and foreshadowed by previous thought, if not by scientific fact ; but the mechanical law of organic formation and growth had absolutely

no history before it was born in the great and luminous mind of Darwin. Truly we may say, like a god he came upon the earth, and brought a new light to man—a light that has expanded the human mind, and laid the foundations for a departure in philosophy, science and social progress, so great that no one can estimate the magnitude of the results which will ultimately flow from it. It will permeate with its penetrative influences every stream of thought. Galileo's dethronement of the earth from its central position, Newton's law of gravity, George Stephenson's locomotive, are small in comparison—and they have done much to emancipate the mind in many ways. The degrading superstitions that have lain like an incubus upon the soul, paralyzing the intellectual energies, and stunting moral and material growth to a degree almost beyond the power of realization, are destined to be vanquished by the light that Darwin has shed upon us.

"This idea of Natural Selection is unquestionably the most important idea that has ever been conceived by the mind of man."[1]

"It was the theory of natural selection that . . . created a revolution in the thought of our time, the magnitude of which in many of its far-reaching consequences we are not even yet in a position to appreciate; but the action of which has already wrought a transformation in general philosophy, as well as in the more special science of biology, that is without a parallel in the history of mankind."[2]

It may, perhaps, be thought by some readers that

[1] Oscar Schmidt's *The Doctrine of Descent*, p. 156.

[2] *Darwin, and After Darwin*, p. 259.

we are stating the case of *de novo* discovery in too unqualified a manner; inasmuch as Darwin himself has told us that he obtained the idea of Natural Selection, through the struggle for life, from Malthus. But although the population theory propounded by Malthus may have initiated or suggested the train of thought which ultimately led to Darwin's grand discovery, it was not in any sense an anticipation, or a foreshadowing of the theory of descent by natural selection. To what extent he was indebted to Malthus, may be gathered from his letter to Haeckel, in which he says :—

"Having reflected much on the foregoing facts, it seemed to me probable that allied species were descended from a common ancestor. But during several years I could not conceive how each germ could have been modified so as to become admirably adapted to its place in Nature. I began, therefore, to study domesticated animals and cultivated plants, and after a time perceived that man's power of selecting and breeding from certain individuals was the most powerful of all means in the production of new races. Having attended to the habits of animals and their relations to the surounding conditions, I was able to realise the severe struggle for existence to which all organisms are subjected; and my geological observations had allowed me to appreciate to a certain extent the duration of past geological periods. With my mind thus prepared, I fortunately happened to read Malthus's 'Essay on Population'; and the idea of natural selection through the struggle for existence at once occurred to me. Of all the subordinate points in the theory, the last which I understood was the cause of the tendency in the descendants from a common progenitor to diverge in character."

The natural cause, therefore, of the mutability of organisms, leading to the origin of species, he found to consist in the *never-ceasing struggle for existence, which is everywhere going on amongst all living things.* This struggle develops qualities,

powers, faculties and organic changes, which, in proportion to the degree of development, give their possessors advantages in the contest, resulting in what Mr. Herbert Spencer has called "Survival of the Fittest," *i.e.* the strongest and best equipped for the incessant battle. The external conditions of life, under which food, pleasure, immunity from danger, etc., are secured, are infinite in number, and are in operation every instant of time; consequently the changes, though imperceptibly slow and gradual, are infinite and incessant. One animal preys upon another, from the highest to the lowest; and the whole earth is a scene of slaughter, "Nature is red in tooth and claw." To pursue, catch and devour, on the one hand, and to avoid being caught and devoured, on the other, are the most persistent activities in animal nature; and the most potent factors in the transformations which are everywhere going on. The weak succumb, the strong survive, and transmit to their descendants the qualities and powers thus acquired, which make them the best fitted to cope with the opposing conditions of their surroundings. As the needs of animal nature are ever pressing, so are the faculties ever vigilant and active for their satisfaction. And so the struggle goes on, and has gone on, without intermission, from the remotest period of organic existence on the earth, down to the present moment. To the eye that could take in a panoramic view of the great and the small over the entire surface, this world would present an appalling spectacle of ferocity, blood and carnage, such as few could witness and retain their faith in the goodness

and beneficence of the God to whom they pray. One such comprehensive glance over the human family alone would be sufficient to strike terror and despair into the stoutest heart, and shake to its foundation the most deeply-rooted and fervently-believed creed that ever engaged the affections and piety of man.

"The struggle for life, this *bellum omnium contra omnes*, is, moreover, an undisputed fact, which we here accept in its widest relations. . . . Organisms live only at the cost of, and for the profit of, others; and the peace and quiet of Nature sung by the poet is resolved, under the searching eye, into an eternal disquiet and haste to assert and maintain existence."[1]

The organic world is bound together in one continuous whole by a mutual dependence so absolute and complete that the effects of the slightest causes are felt far and wide; and, in many cases, the most trivial causes will sometimes lead to the most far-reaching and important consequences; even to the extermination of whole species within the area in which the effects are operative. Darwin has collected an immense number of facts showing this interdependence and its results for and against the preservation of life. A few examples will suffice here. To the south and north of Paraguay feral cattle, horses, and dogs, are very numerous, while in Paraguay itself there are none to be found.

"Azara and Rengger have shown that this is caused by the greater number in Paraguay of a certain fly, which lays its eggs in the navels of these animals when first born. The increase of

[1] Oscar Schmidt, *The Doctrine of Descent*, p. 140.

these flies, numerous as they are, must be habitually checked by some means, probably by other parasitic insects. Hence if certain insectivorous birds were to decrease in Paraguay, the parasitic insects would probably increase, and this would lessen the number of the navel-frequenting flies; then cattle and horses would become feral, and this would certainly greatly alter (as indeed I have observed in parts of South America) the vegetation, and this again would largely affect the insects, and this the insectivorous birds, and so on in ever-increasing circles of complexity."

And again Darwin says :—

"I find from experiments that humble-bees are almost indispensable to the fertilization of the heartsease (Viola tricolor), for other bees do not visit this flower. I have also found that the visits of bees are necessary for the fertilization of some kinds of clover; for instance, 20 heads of Dutch clover (Trifolium repens), yielded 2,290 seeds, but 20 other heads, protected from bees, produced not one. Again, 100 heads of red clover (T. pratense) produced 2,700 seeds, but the same number of protected heads produced not a single seed. Humble-bees alone visit red clover, as other bees cannot reach the nectar. It has been suggested that moths may fertilize the clovers; but I doubt whether they could do so in the case of the red clover, from their weight not being sufficient to depress the wing petals. Hence, we may infer as highly probable that if the whole genus of humble-bees became extinct or very rare in England, the heartsease and red clover would become very rare, or wholly disappear. The number of humble-bees in any district depends, in a great degree, on the number of field-mice, which destroy their combs and nests; and Colonel Newman, who has long attended to the habits of humble-bees, believes that more than two-thirds of them are thus destroyed all over England. Now the number of mice is largely dependent, as every one knows, on the number of cats; and Colonel Newman says, 'Near villages and small towns I have found the nests of humble-bees more numerous than elsewhere, which I attribute to the number of cats that destroy the mice. Hence it is quite credible that the presence of a feline animal in large numbers in a district, might determine, through the intervention first of mice and then of bees, the frequency of certain flowers in that district.'"

Hunger is the strongest of all incentives to action; and, as it is of all necessities the most constant and pressing, it is a permanent factor in the growth of strength, craftiness, skill, and all those advantages which enable their possessors to hold their own against all comers, and measure themselves against rivals armed with any sort of superiority. It is quite obvious that in such a contest, maintained throughout the organic world, and operating without intermission, there would be going on slowly and gradually a development of qualities, powers, and organic alterations, rising ever higher and higher in the scale of fitness and perfection. The slightest advantage, mentally or bodily, by constant use grows and improves; and being transmitted to descendants, by whom the process under the same ever-active stimulus is continued, comes in course of time to reach such a degree of divergence from distant ancestors, as to constitute entirely new species. Of course, we do not mean to imply that mental growth alone could effect a transformation of species; but that it would lead to modifications of the organism, which would do so.

We can mentally represent to ourselves this process if we will follow in thought the physical growth which takes place as the natural result of all muscular exertion; and then consider the infinite variety and complexity of muscular efforts, which are constantly and without intermission, going on in the organic world, for the satisfaction of the needs of hunger, pleasure, etc., etc. It may be that in several generations only the slightest perceptible alterations will take place; but multiply these small

deviations by some thousands of generations, and we see at once that absolutely no limit can be assigned to developmental progress. A slight enlargement of the muscles here, and an imperceptible decrease there, continued through a sufficient number of generations, will carry us on to varieties differing from one another in outward appearance to almost any degree of dissimilarity.

And with regard to the growth of intelligence, every advance is correlated with physical growth; and they act and react upon one another. Every effort one animal makes to waylay and capture another, and every device the pursued creature resorts to to elude its pursuer, enlarges and improves the nerve matter of the organism, under normal conditions, and produces a greater degree of intelligence; which again in turn acts upon the nerve and brain substance, producing an ever-increasing enlargement and superior quality. Enlargement of the physical organs, nerves and brain, to which mind is correlated, acts upon the intelligence, widening its scope and increasing its power; and the intelligence reacting upon the material organs of mind, causes still further growth of those organs. Whenever the intelligence is exercised this effect upon the brain is a necessary consequence; and every such effect increases the capacity of the brain for the expression of greater power and activity. This interaction is inseparable and constant; and the primary stimulus is hunger.

The mystery of mind *per se* is not in any sense touched by the knowledge that the brain is its

material exponent. Why the brain cells should give rise to what we know as "mind" is a profound mystery, to which no solution can be found in either philosophy or science. A knowledge of the causal connexion between the two amounts only to a knowledge of the mechanical laws of their co-ordination or harmony of action, the connecting of effects with their causes. As brain is the material organ of mind, and the latter is, so far as we can ascertain, but a property of the former, we are compelled to regard mind, in all its manifestations, as a mode of physical force; the ultimate analysis of which is, as in all the other forms of force, *motion*. The peculiar motion of the brain particles gives rise to mind, as molecular motion is known to give rise to light, heat, etc.; and deeper than this, in the present state of knowledge, we cannot penetrate. When we have said mind is a property of matter, we have to-day said the last word upon the subject; and have reached even the limits of conceivability.

We shall be better able to appreciate the selecting influence of the universal struggle for life by considering how enormously procreative power exceeds the means of subsistence; and how few of all the creatures that are born can possibly survive. The slowest breeding animal is the elephant, and yet if the progeny of a single pair were allowed to live and produce, in 750 years there would be living 19,000,000 of their descendants. There is not a species of animal which, if it were allowed to breed freely and could find food, would not in a few years overrun the earth. These are simple facts, which are known to every one. Again, with regard to vege-

tables. If a species of annual plant produced only two seeds a year, and these were allowed to produce their kind for twenty years in succession, there would be 11,000,000 plants from the one ancestor. These two cases, cited by Mr. Romanes, suffice to show how soon animals and vegetables would cover the whole surface of the earth, if allowed to produce uninterrupted by any causes whatsoever. But, as a matter of fact, the two examples mentioned are far below the average productive powers of animals and plants, as the reader knows. Mr. Romanes estimates that, taking organic nature as a whole, not more than one in a thousand of all that come into life is allowed to grow to maturity and propagate, and this is probably an extravagant estimate of the number that survive; but it serves to impress us at once with the magnitude and intensity of the struggle for life which is waged amongst all living things.

That the survivors will be the fittest to live, *i.e.* the best adapted to the conditions of their environment, and will transmit to their descendants their superior qualities, are facts which few will now dispute. These qualities will be handed down by heredity in unequal degrees; so that in every generation only the strongest, as a rule, will survive and breed. And thus Nature is constantly selecting for the continuance of each species those of its members which are best adapted to succeed in the race. It will be seen from this that Nature's fostering care is bestowed only on the species; she pays little or no regard to the individual life—except so far as it serves the welfare of the species which she selects from a thousand others of the kind solely in

the interest of the type. "Natural selection preserves the life of the individual only in so far as this is conducive to that of the species. Wherever the life-interests of the individual clash with those of the species, that individual is sacrificed in favour of others who happen better to subserve the interests of the species."[1] And as there is a constant warfare going on among individuals for the preservation of life, resulting in the survival of the fittest, so is there, in like manner, a continuous struggle waged among tribes, resulting in the preservation of the fittest types.

The mechanical laws of necessity kill nine hundred and ninety-nine, the same laws preserve one. In this there is no purpose, moral or otherwise; and as man in his relations to himself and to the rest of Nature comes under the operation of the same *purposeless* mechanical necessity, in this connexion may lie the solution of many problems, which admit of no satisfactory explanation from any of the great religions of the world, past or present.

In every case the advantages developed by the struggle for life are subservient to the interests of the individual; and in no single instance will any changes occur which are not useful in some way or other. Individually the struggle is one of pure selfishness, exerted solely for the attainment of personal gain. This fact has appeared to tell against the application of natural selection to the social instincts and the moral sense; and has been seized on to prove that they could not have been gradually evolved by a struggle of a purely selfish character.

[1] *Darwin, and After Darwin*, p. 264.

The moral sense is altruistic—the very reverse of selfishness—and therefore natural selection, being due to pure selfishness, cannot have given rise to the moral faculties.

This argument has been often used; and to those who are unacquainted with the full meaning of natural selection it appears very plausible, if not quite convincing. But those who are familiar with Darwin's works know that he did not limit the struggle for life to individuals, but extended it to communities. The very moment that two persons co-operate together for a common object the results of each individual's effort in part pass over to the other, and the germ of the altruistic faculty is born. The fruits of their combined labour being shared by both, the individual gain merges in the co-operative, without the individual losing the sense of personal advantage arising from individual effort. These are the first simple elements of the social organism. Every danger that threatens one threatens the other; every advantage, broadly speaking, that is gained by one is shared by the other. Henceforth a bond has been established, an organic birth, so to speak, has taken place, which will go on growing by addition of members, analogous to the cell process by which organisms are formed. And as the formation of the organism goes on by the addition of cell to cell, increasing in complexity, in accordance with the structure or type of the being to be formed, so the social organism goes on growing and increasing in complexity and perfection as the members increase in numbers. The growth of a community necessitates a multiplicity of wants, and endless con-

trivances for satisfying those wants in the easiest, most expeditious and effective ways, resulting in what we call civilization and progress. The community, as a whole, will have an unity of interest, and will contend against all other communities for every advantage. And as the social forces grow the system will become more firmly organized and more completely co-operative, through the identity of interest caused by the never-ceasing interaction of all the members.

We may extend the analogy between the individual organism and the community still further, even to the dissolution of both. When the former has run its course and ceased to exist, it has left behind in the community all the influence, for good or bad, that it exercised during the period of its existence. No human being ever lived who did not influence, according to his capacity, all with whom he came in contact. Not from written works alone, or the material records of man's superior genius, is the public intelligence formed; but from the interfusion of all the individual influences of the community that ever lived, both great and small. Every single human unit, therefore bears a part in the evolution of the sentient and intellectual life of a community; although the influence is not always towards the extension and elevation of the moral character.

In like manner every community influences every other community with which it has dealings; and this in ways far too numerous and complex to specify. During the lifetime of a nation all that is evolved by its genius acts upon the whole civilized world,

and even upon the parts that are outside the path of civilization ; and when the nation decays or dies out it may be that, in addition to the influence it exercised in the world during its lifetime, it may leave behind it monuments of its genius, which will serve to instruct and develop the mind of many future generations, as Greece and Rome did, for example. And thus the world, upon the whole, is ever evolving a greater degree of mind, and progressing in those institutions and arrangements on which human happiness and welfare depend. The sorrow is that progress should be so slow.

Considerations of this kind explain to us the development of the co-operative instincts and the intelligent social habits ; and from them the moral sense, such as it is, has been evolved. It is the outgrowth of all previous development. As yet, however, the moral conscience, both individually and nationally, is in its embryonic stage ; corresponding to the condition of the social organism in all other respects. Man socially has scarcely yet thrown off his swaddling clothes ; and his progress towards that justice and culture, which Aristotle says will bring happiness to our race, is no further advanced. It is not an easy matter to explain the evolution of the moral sense. The gulf between the low forms of life and all that is involved in the highest morality, is apparently impassable. The connection can only be realised in thought, by adequately appreciating the minuteness of all Nature's operations, and the long periods which are necessary to effect any changes in those directions which we characterise as growth and development.

The idea contained in the saying of the German writer: "God sleeps in the stone, dreams in the animal, and wakes in man," carries a faint allegorical analogy, and is both beautiful and suggestive.

Between the lowest and the highest forms of the "brute creation" all men are prepared to admit that the differences are only in degree—all brute action being comprised under so-called *instinct* by those who maintain that there is a radical distinction in kind between instinct and reason. But no one has ever been able to show a *real* distinction. All that has been written in favour of classing them as separate in kind, by analysis, is resolved into mere verbal distinctions, having no foundation in fact. Man performs certain specific actions for the attainment of certain specific ends, and we call this *reason*. The dog performs certain specific actions for the attainment of certain specific ends—as, for example, when he hides a bone so that it may not be eaten by another dog—and we call this *instinct*. Why? To this question no one has yet given a satisfactory answer; and, in our judgment there is no answer. To say that man is *conscious* of his actions, and that the dog is not, is only to beg the question. There is no proof that the dog is not conscious of what he does; on the contrary, there is strong presumptive evidence that he is. It is an arbitrary assumption which, so far as I know, is unsupported by facts.

The dog is indeed possessed of moral faculties in no inconsiderable degree. Detected in a wrong action, he at once manifests a sense of shame, especially towards those he loves. When death deprives him of his master, he is fully conscious of his

loss ; and no one can observe him closely without being convinced that he mourns the death of his friend in loneliness and heart-stricken sorrow. Watch the pleasure in his eye and bearing when those he loves speak kindly to him. And, above all, will he not jeopardize his life, and indeed sacrifice it freely, in defence of those to whom he is attached?

Between man and dog, though the latter does not use vocal speech, there is *real* converse. Among the moral faculties in man, what is there that the dog does not share in some degree ? The answer is, I think, *none*.

The non-progressive character of animals is now proved to have been an unfounded assumption ; and not only is it inconsistent with evolution, but it is also opposed to observed facts. We may therefore conclude, from a survey of all the facts within our knowledge, as well as on *a priori* grounds, that from the beginning of life in its lowest forms up to man, the development of mind has been one continuous gradual growth, culminating in intellectual power and moral conscience, the mechanical basis of which is chiefly the growth in number, quality, and combination of the brain cells. Probably every cell that is added to the brain increases its power ; and the main difference between the man of low intellect and the philosopher is one of difference in the quality and number of cells composing their brains. If this be so, what infinite possibilities await our race in the future, as the brain cells increase in number, and all mental activity tends to their growth.

CHAPTER IV.

THE SOUL: A MUNDANE PRODUCT.

EVOLUTION has shown us man's place in Nature, and he can no longer be regarded as a specially created being, for whose use and enjoyment the world, and all it contains have been provided. We now know that he is but a part of the great organic whole, and that his origin and his end are similar to those of every other animal. All the force and matter of his composition come from the earth, and at death return to the earth. And throughout the entire circle of his being it is beyond the power of conceivability to grant the creation at birth, or the annihilation at death of the smallest fraction of the matter and force which comprise his whole being. They are a part of the earth, and cannot be separated from it.

The Life-principle, which is an expression of physical force, as well as the organic character in its fundamental relations, are common to all living things. And as man, in the beauty and perfection of his corporeal structure, is the highest outcome of the latter, so is he, in the combination, range, and power of his intellectual faculties, the greatest and most perfect manifestation and expression of the former. But the *universal* soul animates him, as it also animates everything that breathes; and the life of

the Protista may be as appropriately designated their soul as anything appertaining to man may be called his soul. The mechanical source of life is common to all organic creatures, and the physical structure, as we have seen, is built up on one universal plan, and with the same materials—yes, literally, with the *same* materials; for the matter that composes every human body may, at dissolution, go towards the formation of other organisms. And, indeed, we know for a fact, that in course of time it *must* do so, since the matter of every organism goes back to the source whence it came, thus completing the organic circle.

The food of life, or organic material, comes from Nature's larder, and when the forms which she builds up have run their course, it goes back to Nature's larder again, ready to be served out in the formation of the endless varieties of the living world. And so on in one continuous circle, without cessation or end. In every instant of time the reciprocal actions of giving out and taking in are going on; so that the larder, unlike that of the poor toilers of the earth, is never exhausted, but at all times contains a plentiful supply for all needs. Viewed as a whole, the organic world is an integral part of the earth, which takes shape continually in a multitude of forms, through which the stream of matter is constantly flowing, and may be, not inaptly, illustrated by the simile of Zeno's cataract, mentioned in a former page, only that instead of the entire matter being changed every few minutes, it takes some years to effect the process. In the case of man it is said that the whole of the matter of his body is renewed once in seven years.

Viewing *life* on the earth as a whole, it also is an

integral part of the globe, and is a property inherent in matter—is a mode of force, the total quantity of which remains always the same, neither more nor less.[1] When fire in the grate dies out, it simply means that the force which made fire visible to our senses has been absorbed by the surrounding medium; but not a particle is lost or annihilated. When life goes out of us it means, probably, in like manner, that the force which kept life in us has travelled off in another direction; that there has been a re-arrangement of molecular combination, due to altered molecular motion; it may be so; but every particle of the force continues to exist under other forms. All these forms, we must bear in mind, are only relative to our senses, through which alone we can have any knowledge of the external world. The quantity of this life force, under the aspect of intelligence, is regulated by the growth and complexity of the organism throughout the animal kingdom. Comparative anatomy reveals the fact, that as the nervous system (brain included) in animals increases in complexity and perfection, so to the same degree do they rise in intelligence; *i.e.* between complexity of structure of the nervous system and intelligence there is a direct and constant ratio which holds from the lowest form of life up to man.

The reader who has accompanied me so far has, no doubt, ere this come to the conclusion that, if evolution is true, the popular conception of the human soul must be erroneous. We have been dealing with scientific truths, to which we must perforce give our

[1] See Sir W. Grove, *Correlation of the Physical Forces.*

assent, as the most certain of human knowledge; and they point to life in all its phases as identical with what we know as physical force. There is no escape from the conclusion that the so-called soul of man is included in this force, and has, therefore, no separate existence apart from it. Evolution irresistibly forces this upon us, and compels us to regard the soul as in no way differing—except in degree of development—from every other manifestation of life in the organic world. The soul, according to the theory of gradual development, emerges from its environment, and, at the dissolution of the organism, returns to it, together with the matter of the organism of which it is but a property; similarly the life or soul of every other animal is a part of general force, to which it returns at death. Anyhow, whatever views may be entertained respecting the nature of life or soul, the ultimate analysis must rest in *force*; and the human soul—as well as the life or soul of every other creature—must be regarded as a product of Natural Law—a part of an inseparable whole, embracing, at least the entire world that we inhabit.

The conservation of energy, or the correlation of the physical forces, teaches that force is an absolutely constant quantity, which can neither be diminished nor augmented by the smallest conceivable fraction. But if it were true that, at the birth of every human being, a soul was *created*, then with the advent of each child a new and additional force would be added to the force already existing, which would be a contradiction of the law of the conservation of energy—a denial of the truth of one of the most important laws of Nature.

We also know that the soul is subject, like all organic Nature, to growth and decay. The new-born infant manifests no consciousness of its actions; they being automatic or reflex. The intelligent or conscious principle grows with the growth of the body, and decays with the decay of the body; thereby further proving its kinship with and subjection to the controlling principle of growth and decay on this earth. In all its manifestations from birth to death, it is under the influence of the physical laws of Nature, inasmuch as we know that it is affected by the conditions of the body. So far, therefore, as positive knowledge can prove anything, we must come to the conclusion that the soul is an inseparable part of this world—can neither be brought to it at birth, nor taken from it at death. Evolution supposes (confining ourselves to organic nature) that from the lowest form of life up to man, the development of the soul has been a gradual continuous process, *the same in* KIND *throughout the long series*. This is a very important consideration bearing upon the nature of death. It seems to merge the human soul in the mundane soul,—the totality of life, the life principle, and to make it an inseparable part of the whole of life force. In the economy of Nature it seems to give as distinct and as *important* a personality to the lower forms of life as to man. The claim upon Nature of the tiny creature, too small to be seen by the naked eye, is co-extensive in character with that of man—nay, that of the little speck of living slime is equally so. From these considerations it would appear that the millions of human beings that come and go are of

no more consequence in the economy of Nature than the millions of other organized beings that come and go; that the earth is indeed the great mother of *all*, and that all things that draw the breath of life are equally her children, to one and all of whom her laws are extended without distinction or favour, from the blade of grass, if you like, up to man. Does evolution then throw any reliable light upon the momentous question of a future life?

I have treated what is generally called the soul as synonymous with life, as a property of matter—a mode of force; and have regarded this as a result of molecular arrangement, which is common to the organic world. But it is evident that between life and consciousness there is a radical distinction, since life continues when consciousness has entirely disappeared, as in sleep. In a perfectly dreamless sleep, the functions of the body go on, while to all intents and purposes the consciousness is quite dead. When I am perfectly unconscious it matters little to me, for the time being, whether I am alive or dead, and so far as regards all the states of my mind, I am really dead, being as incapable of feeling pleasure or pain as any inanimate object. The question is, Are consciousness and the soul one and the same thing, and due to molecular construction and brain organization? And if so, is consciousness nothing but a mode of physical force?

If we regard consciousness as constituting what we term the soul, and due to material organization, then at the dissolution of its seat of manifestation—the brain—it must disappear; but we know that it disappears under other conditions than those of dis-

solution of the brain. Is it possible for the consciousness to survive the entire destruction of the organism? If it be, then a future life seems possible; but not, I think, otherwise. We know that it is quite easy to produce an abnormal physical condition in which the consciousness ceases to exist for the time, so far as we know. Suppose a person under the influence of a powerful anæsthetic, in which state for several hours the consciousness has been absolutely as dead as a stone, and the human machine has been as near as possible on the point of stopping altogether; is it conceivable that at the exact moment when the heart gives its last faint beat the consciousness will awake in another world? or in this, and take its flight to another place? If so, it must be under conditions entirely beyond the power of science to conjecture; and those who maintain this belief do so as a matter of *feeling* only. There is no disputing the question with them; it can neither be proved nor disproved, nor can they be dislodged from their position by human knowledge.

When we are in profound sleep, where is our consciousness? The activity of the brain is correlated with consciousness, and is a concomitant of dreaming. Here again would appear to be a proof that consciousness is a property of the brain activity, and inseparable from it as an entity. In innumerable ways we know that consciousness is a property of brain matter; but there is not a single instance in human experience of its ever having existed apart from the brain. All experience goes to prove that it is a property of organic matter. Are we to suppose, then, that it will still continue to exist after the

organism has been completely destroyed and resolved into inorganic matter? Science, experience, analogy are dead against such a supposition; feeling alone is the only warrant for it, such as it is.

Whatever views may be held in future respecting another life, the Christian doctrine of the resurrection of our bodies can no longer be accepted. One consideration alone would prove to us the physical impossibility of such a thing. It is admitted that the *matter* of which we are composed belongs to the earth—that every particle of our bodies comes from the earth, and returns to it at death and dissolution. The available material therefore is limited and fixed; and it is an obvious fact that, if we assign to the existence of man anything like the scientific age, the whole of that available material will not be sufficient for all the human bodies that will have to take their departure at the end of the world.

As an argument against the resurrection of the body it has often been pointed out that, in the course of years, the matter composing any human being may be scattered over the earth; and if the body is to rise again at the last day millions of particles will have to be re-collected from all parts. This argument, however, is only one of improbability; it supplies no proof against the doctrine of resurrection. It is quite otherwise with the question of the *quantity* of the human material. If all the human beings that have ever existed in the world have to rise again in their bodily form at the "day of judgment" it is quite certain that they cannot appear unless all the matter of their bodies can be found; and it is equally certain that the mass of matter

composing the whole human race from first to last would exceed many times over the total quantity of matter on this earth of which the human body is composed. We saw in a previous chapter that organic matter is used over and over again in the formation of living bodies; so that, in raising the dead it will be found that the same matter has gone towards the formation of countless human creatures. *Neither the same bodies, nor an equal number can, therefore, ever exist again.* That is quite certain: and it effectually disposes of the doctrine of the resurrection of the body.

From every reasonable argument, we may conclude that the planets of our own and other systems are inhabited; and that life and death have been going on indefinitely in the past, and will go on indefinitely in the future. What, then, is to become of the infinite number of existences when they enter into their immortal life? When this world has run its course it will have produced so great a number of human creatures, that if they were all to re-appear there would not be standing room for them; and the same may be inferred of every other world in the Universe. Is this universal and infinite process of birth and death a rational ground for belief in immortality? Or is it not rather a strong argument against it? Hume long ago wrote: "How to dispose of the infinite number of posthumous existences ought also to embarrass the religious theory. Every planet in every solar system, we are at liberty to imagine peopled with intelligent mortal beings, at least we can fix on no other supposition. For these then a new universe must every generation be

created beyond the bounds of the present universe, or one must have been created so prodigiously wide as to admit of this continual influx of beings. Ought such bold suppositions to be received by any philosophy, and that merely on the pretext of a bare possibility? . . . There arise indeed in some minds some unaccountable terrors with regard to futurity; but these would quickly vanish were they not artificially fostered by precept and education. And those who foster them, what is their motive? Only to gain a livelihood, and to acquire power and riches in this world. Their very zeal and industry, therefore, are an argument against them?" [1]

Again, what do we mean by a future life? The only thing about us that can be annihilated is consciousness. Matter and force remain indestructible. It matters not to me here whether or not I had a previous existence, inasmuch as the continuity—if I had a past life—was broken, and I am, therefore, like two different persons. By a future life, for the same reason, we must mean a prolongation of our consciousness, a carrying with us to the next world of all our knowledge and remembrances of this, so that we may meet and know again those whom we knew in this life. This pre-supposes an indestructibility of consciousness, by the terms of the argument; but we know from experience that the consciousness is temporarily destructible. Is that temporary destructibility, then, only possible while the brain is a living organ, and impossible the moment it ceases to

[1] David Hume, *On the Immortality of the Soul.*

be a living organ? Such an assumption seems almost to reduce the question to an absurdity.

Science and experience offering no warrant for a belief in a future life, we must fall back again upon feeling; and what does this amount to? We desire, passionately long, many of us, to live beyond this life, to meet again those who are gone from us, and whom we loved; we shrink from the thought of annihilation, *eternal nothingness*, when this life of disappointments and sorrow is ended. We think of our parents, of our wives and children, of our friends, and the *heart* repudiates the justice of any divine ordinance which has brought into being so much love and affection only to be destroyed for ever in the grave. In every human life a tragedy is enacted, and we instinctively yearn for a better and happier home hereafter; where the soul's hunger shall be satisfied, and all the weary unrest shall be ended; when brotherly love shall take the place of strife, and the heart shall know no more sorrow. We look into this vast fabric of Nature, with all its solemn grandeur, until the mind becomes bewildered and lost in the awful immensity, and we ask ourselves in fear and dread if there is never in all the ages to come to be any explanation of the great mystery. Eternity behind us, eternity before us, our lives a mere speck in the everlasting, illimitable void! The thought appals us, the intellect is distracted, and the soul takes refuge in emotional aspiration.

Philosophy steps in, and in the higher regions of thought declares that *explanation* is an inconceivability, that the conditions of our mental constitution and processes of thought confine us absolutely to

the human circle, beyond which the mind is impotent to act. Strive as we may to penetrate the "hereafter" in search of some satisfaction to the eternal craving for a solution of the mystery, those conditions inexorably draw us back to this finite life, and dissolve the fabric of every *intellectual* aspiration which we build with the materials of experience. And what other materials have we for even the highest and most abstract flights of the mind? A future life is unthinkable, God is inconceivable, and yet, as George Eliot said, duty remains as the most imperative of all calls upon us in our social relations. It is a profound mystery about which science and philosophy must be silent, and the emotional cravings confined to each individual breast.

Perhaps the most solemn and intensifying moments for such considerations are those which follow the death of one we love. The cold, still, rigid form, which but a few hours before was instinct with love and life, and, it may be, hope, strikes a chill to the heart of the believer in annihilation which scientific reasoning is powerless to repress. At such a moment we look into the heavens, and instinctively wonder if the soul of the beloved form beside us has winged its flight to one of the many bright orbs which shine down upon us in their solitary grandeur. No sign is manifest to the bereaved questioner—all is silent, still and *im*personal; and it must be confessed that the advantage of comfort at such a time is with him who believes in the immortality of the soul. It has always appeared to me a sustaining and comforting idea to regard the heavenly bodies as the homes of rational beings like ourselves.

The heavens are no longer solitary and impersonal ; and our own home is but one among countless myriads of worlds of life and love. The feeling seems to take away the sense of loneliness, to destroy the consciousness of isolation, to create as it were a bond of universality, and to bring us into closer relationship with the Great Unknown. But it is not knowledge, and yet it may be. Who knows ?

PART II.

RELIGION.

"One considerable advantage that arises from philosophy consists in the sovereign antidote which it affords to superstition and false religion. All other remedies against that pestilent distemper are vain, or at least uncertain. Plain good sense, and the practice of the world, which alone serve most purposes of life, are here found ineffectual. History, as well as daily experience, furnish instances of men endowed with the strongest capacity for business and affairs, who have all their lives crouched under slavery to the grossest superstition."

DAVID HUME.

CHAPTER V.

EVOLUTION OF RELIGIOUS IDEAS.

To understand the genesis of religions, we must trace them back to the origin of the religious ideas. Each religion claims for itself an independent and supernatural origin; while to all others it ascribes a *natural* origin only. It is evident, then, that to investigate the subject with an unbiassed, impartial mind, the investigator must himself be free from the dominating influence of any particular religion. Where faith exists, the reason is non-existent. "Where faith begins knowledge ends."

At the same time, while claiming the right to treat the subject of religion as a branch of human knowledge, and by those methods of investigation which we apply to every other subject of enquiry, I am not unmindful of the obligation which is imposed upon us all to hold in respect those opinions and beliefs in which many generations of men have lived and died. I am fully impressed with all that is expressed and implied in the beautiful words of Dr. Draper: "No spectacle can be presented to the thoughtful mind more solemn, more mournful, than that of the dying of an ancient religion, which in its day has given consolation to many generations of men."

However absurd to us may appear many of the religious beliefs of the past, we must bear in mind that they were matters of solemn and deep concern to those who held them; and that as we with our greater knowledge look back upon those religions, so will our descendants in a still more enlightened age regard the faiths of to-day. Religious conceptions in all ages are relative to intellectual progress, and to this law there is no exception. Another great truth which modern research has brought to light is, that no religion has, properly speaking, a *de novo* beginning; but all are derived more or less from pre-existing forms—the Christian religion no less so than all others. In this respect religions, like everything else, obey the great law of evolution, they are all unfolded from and built up upon previously existing elements. They are all more or less derivative, and the chief doctrines may be said to be common to all of them. From the earliest attempts of human reason, so far as we can trace them, to account for the mysteries of Nature and of life, down to the present moment, all that is included under the name of religion has been a long continuous series of growth and development, under the law of inheritance and adaptation.

In early times when, so far as we know, man was unacquainted with any of the laws of Nature, or, at all events, had but the most primitive knowledge of them, it was a necessity of his ignorance that he should ascribe natural phenomena to beings similar in Nature to himself, but endowed with far greater powers, as savages and barbarous peoples do to-day in many parts of the world; and, indeed, as we our-

selves did only a few generations back—*nay, if truth may be permitted, as we do to-day in the most civilized societies in the world!* In the infancy of his mind man had no guide within himself, either for the regulation of his material concerns, or for those inward necessities of thought and feeling which exist even in the earliest and most backward races of men. And, consequently, external Nature had for him a direct, close and personal significance.

The vastness of the Universe was a thought that never entered his mind, and one which he was as incapable of entertaining as would be the child just learning to lisp its mother's name. The uninformed, undeveloped mind looked through its senses out upon its surroundings, and the information they conveyed was neither more nor less than the mind was capable of receiving and assimilating. His mind was able to receive and assimilate very little indeed; and hence his natural habitat appeared to him a simple thing of very small dimensions. His helplessness being great and his consciousness of power very small, he was peculiarly susceptible to outward impressions; and he possessed an inherent tendency to personalise all natural phenomena, especially those from which he could suffer in any way, and to project into them the attributes which he himself was endowed with.

The continuity of mental sequence receives a remarkable illustration in the parallel processes of the mental activities of early man, and those of some great thinkers of modern times. As early man endowed external Nature with his own personal attributes, so do the thinkers referred to make the law

of their own conceptive faculty the law of Nature. Only the thinkable is possible. "I perceive," says the thinker, "the order of Nature occurring in the only manner in which I can *think* the succession possible." And he concludes: "It is human thought which dictates the laws of the Universe; only what man *thinks* can possibly *be*. . . . Nay, paradoxical as it may seem, there is much truth in the assertion that "it is the mind of man which rules the Universe."[1] Across the long ages primitive man and the philosopher may, therefore, shake hands. The categories are different, but the unity is complete. The real mystery is as great to us as it was to him.

For the most primitive form of the historical religious idea we must go to Egypt; not that Egypt was the birthplace of religion, but because it contains for us the oldest germs on record. The Egyptians themselves, as Herodotus tells us, probably looked back upon much older civilizations, which have completely passed away, and left behind them no monumental vestiges of any kind whatsoever. If this were so, probably the earliest Egyptians derived their ideas from still older peoples; and we may almost conclude from comparative sociology that this was so to some extent. In reality we cannot get to the origin, *i.e.* the absolute beginning, of the religious ideas. So far as we know, the glimmering consciousness of the anthropoidal apes may be imbued with a dim conceptual feeling, and a vague unformulated perception of the mystery of their being. But we need not go beyond man in the early stages of reason for the ideas we are in

[1] Karl Pearson, *Ethic of Freethought*, p. 31.

search of. A wide range of induction, extending over several thousand years and in all parts of the world, is at our service, supplying us with innumerable facts as to the mental processes by which all races have evolved their supernatural beings, or gods. As some of those processes of primitive times survive in forms which have come down to us, and are still in use, so in like manner we may see them operating at the present time among uncivilized races in many parts of the world.

There are chiefly two groups of facts from which man originally created his gods, though they meet and coalesce in many points in the mental and emotional processes of manufacture. One is the apotheosis of the material objects of sense; the other the apotheosis of chiefs and other great personages, and the subjective states of dreams, etc., giving rise to a belief in the existence of an incorporeal double or ghost, which in the last and most refined and abstract stage is called the soul. These are the chief elements out of which *all* the religions of the world—the dead, the dying, and the living—have been evolved; and there is not *one* religion which, in its chief dogmas, does not contain ample proofs of its origin.

It will help us to an understanding of the workings of the intellect, through which the idea of a deity has been obtained, if we keep before us the important truth, that the mind cannot be reached or acted upon, can receive no impressions or ideas except through the medium of the senses. Whatever mind in itself may be, it is quite certain that all our knowledge of the external world is derived through

the intermediate agency of the senses; and this is the basis of *all* ideas. This fundamental law is irresistible in destroying whole hosts of religious myths in all creeds. Indeed, I think we might go the length of asserting that, if rigidly and logically applied, it would dissolve the whole fabric of religious dogmas. This, however, though I believe it to be literally true, is a wide generalization; and is as easily denied as affirmed. Its truth, I hope, will appear manifest by the time we reach the end of this part.

The two most powerful agents in man in giving birth to religious ideas are *Fear* and *Hope*. In early ages, when men were struggling painfully and slowly out of savage and barbarous conditions, and when little if any progress had been made in combating the forces of Nature and making them subservient to their use, they were the helpless victims of such forces. The thunder appalled them, the lightnings scared them, and the wind and rain produced suffering and misery in many ways. Inundations swept away their homes, destroyed their crops, flocks and herds—in later though still comparatively early stages—and wrought devastation and ruin to themselves and those they loved. The activities of Nature could only be paralleled in the mind of early man by personal activity. Inanimate nature around him could not move except by the action of living agents; and he came, by the force of analogy, to look upon the elements as living beings like himself, only much more powerful. The elements injured him; and the spectacle of oppression being familiar enough to him in all his human relations, analogy

again directed him, and he supplicated the elements with prayer and propitiatory offerings, as he did the powerful human beings who controlled him, and very often made him suffer. A deafening clap of thunder bursting suddenly over his head, accompanied by a flash of lightning, rifting and blasting great trees, and dealing death and destruction around, were to his simple mind irresistible and awful portents of the wrath of mighty celestial beings, before whom, in his fear, it was the most natural thing that he should prostrate himself, and offer up prayer.

In time these malevolent gods grew into a hierarchy of many grades, and became as numerous as the ills and misfortunes of life. In every religion known to man the evil gods have had their place. These supernatural beings have played in the Christian religion, as every one knows, a prominent part; and it is only quite recently that belief in numerous devils has given place to a belief in one only. And possibly his Satanic Majesty, with all except the most pious, is now on his way to follow the rest of his numerous brethren.

Concurrently with belief in evil gods arose belief in good ones. After the raging elements have subsided the genial sun comes forth to warm and cheer the poor victim; producing a sense of comfort and happiness. The sun was a very real and beneficent thing to early man, as, indeed, it is to all of us. He felt its benign influence in a hundred ways. In its absence reigned the evil influences which worked him mischief; and when it reappeared the whole aspect of Nature was changed, and his fear gave way

to confidence, love and hope. And he looked upon the sun as the chief among the good gods, whose mission it was to chase away the evil ones, and minister to his comfort and happiness in an endless variety of ways.

So with the moon : it drove away to some extent the darkness, which to the mind of primitive man was a real presence, giving shelter to a host of evil ones. The calm light of the moon had no terrors for him ; on the contrary, its mystic splendour entered deeply into his dark, clouded soul, and produced a soothing effect, which perhaps helped greatly to unfold and develop his dawning intelligence. We may, in imagination, transport ourselves back into the early part of man's life, and picture him regarding wistfully, and with feelings of wonder and admiration, not unmixed with some awe, the bright full moon shedding its peaceful light over the hushed and quiet landscape. Such scenes must have exercised considerable influence over the mind in the earliest stages. And even to us now a bright moonlight night is not without its influence in developing the intellect by intensifying thought and emotion. The moon, therefore, was regarded as one of the good gods.

"The sun and moon move as living gods in the heaven, or at least are drawn or driven by celestial powers, while the presence of living beings in the sky seems peculiarly manifest in eclipses, when invisible monsters seize and swallow the sun and moon. All this is very natural, so natural indeed, that more correct astronomy has not yet rooted it out of Europe." [1]

[1] E. B. Tylor, *Anthropology*, p, 332.

The stars in much more complex ways influenced the minds of the early Egyptians in evolving their multitudinous gods. The configuration of the country, the climate, and especially the annual overflowing of the Nile, were in great measure answerable for the initiatory processes. Those who are desirous of believing that man has *degenerated* from the perfect condition of the inhabitants of the "Garden of Eden" would have us believe that the gods of Egypt were symbols of the attributes of one god; and that in the earliest times the Egyptians worshipped one deity only. But this is a gratuitous assumption, and as void of foundation as the myth about the "Garden of Eden" itself. The deified animals, etc., bore incidental relations to the stars, and hence came to be identified with them and their supposed influences. The simple, untutored mind having noticed that certain stars were invariably visible at times when certain animals were most in evidence, formed such groups of stars figuratively into the animals in question, and gave to each group the name corresponding to each animal. In this way the constellations were formed; and both came to be regarded as gods.

It is surely paying the Egyptian character a poor compliment to assume that after having arrived at the advanced conception of the unity of deity they should have symbolised his attributes in all the animals of the country, and offered to them the homage and worship which they formerly bestowed on their one god only. Those who accept this view are landed in this paradox, viz., that while the intellect of Egypt progressed in every other respect,

in that of religion alone it retrograded and became demoralised. While it was making great strides in all the arts and sciences of life, and growing into a powerful nation, it was at the same time becoming enfeebled in intellect in the matter of religion. Only the religious mind could reconcile such a contradiction of the laws of thought.

Necessity is ever the source of invention. And when the first tribes of Egypt turned their attention to agriculture, they found it necessary to establish means by which to calculate the recurrence of innumerable events ; such, for example, as the duration and succession of the seasons, months, and years ; the periodic return of similar operations of Nature, etc. For this purpose it was necessary to study the motions of the heavenly bodies—sun, moon, stars, and planets—which, by their re-appearance at fixed intervals, enabled them to measure regular periods of time ; and so regulate by them their agricultural operations. All motion in those days was associated with life ; and accordingly the heavenly bodies were believed to be powerful celestial beings, and in some cases the bright abodes or palaces of those beings. They were looked upon as the governing powers on earth ; and soon a hierarchy of grades grew up among them, to each of which were assigned special functions. And thus the simple worship of the stars grew up among the ancient Egyptians. How they came to be identified with the animals is ingeniously shown in that most remarkable work, Volney's *Ruins of Empires* :—

"Having remarked that in the annual revolution the renewal and periodical appearance of the productions of the earth were

constantly connected with the rising and setting of certain stars; and with their position relating to the sun, the mind, by a natural mechanism, associated in its thought, terrestial, and celestial objects, which had in fact a certain alliance; and, applying to them the same sign, it gave to the stars and the groups it formed of them, the very names of the terrestial objects to which they bore affinity.

"Thus the Ethiopian of Thebes, called stars of inundation, or of *Aquarius*, those under which the river began to overflow; stars of the ox or bull, those under which it was convenient to plough the earth; stars of the lion, those under which that animal, driven by thirst from the deserts, made his appearance on the banks of the Nile; stars of the sheaf, or of the harvest maid, those under which the harvests were got in; stars of the lamb, stars of the goat, those under which those valuable animals brought forth their young; and thus was a great point of the difficulty resolved. . . . Thus the same Ethiopian, having observed that the return of the inundation answered constantly to the appearance of a very beautiful star towards the source of the Nile, which seemed to warn the husbandman against being surprised by the waters, he compared this action with that of the animal who by barking gives notice of danger, and called this star the dog, the barker (*Syrius*). In the same manner he called stars of the crab, those which showed themselves when the sun, having then reached the bounds of the tropic, returned backwards and sideways like the crab or *Cancer*; stars of the wild goat, those, the sun being arrived at its greatest altitude at the top of the horary Gnomon, imitated the action of that animal who delights in climbing the highest rocks; stars of the balance, those which, the day and night being of the same length, seem to observe an equilibrium like that instrument; stars of the scorpion, those which were perceptible when certain regular winds brought a burning vapour like the poison of the scorpion. In the same manner he called by the name of rings and serpents the figured traces of the orbits of the stars and planets; and this was the general means of appellation of all the heavenly bodies, taken in groups or individually according to their connection with rural and terrestrial operations, and the analogies which every native found them to bear to the labours of the field and the objects of their climate and soil . . . . Men would say, by a natural metaphor, 'The bull spreads upon the earth the germs of

fecundity (in spring); and brings back abundance by the revival of vegetation. The lamb (or ram) delivers the heavens from the malevolent genii of winter; and saves the world from the serpent (emblem of the wet season). The scorpion pours out his venom upon the earth, and spreads disease and death, etc. This language, understood by everybody, was at first attended with no inconvenience; but in process of time, when the almanac had been regulated, the people, who could do without further observation of the stars, lost sight of the motive which led to the adoption of these expressions; and the allegory still remaining in the practices of life, became a fatal stumbling-block to the understanding and reason. Habituated to join to symbols the ideas of these models, the mind finally confounded them; then those same animals which the imagination had reared to heaven, descended again on the earth; but in their return, decked in the livery and invested with the attributes of the stars, they imposed upon their own authors. The people imagining that they saw their god before them, found it a more easy task to offer up their prayers. They demanded of the ram of their flock the influence which they expected of the celestrial ram; they prayed the scorpion not to pour out his venom upon Nature; they revered the fish of the river, the crab of the sea, and the scarabæus of the slime; and by a series of corrupt but inseparable analogies, they lost themselves in a labyrinth of consequent absurdities.

"Such was the origin of this ancient and singular worship of animals; such the train of ideas by which the character of the divinity became common to the meanest of the brute creation; and thus was formed the vast, complicated, and learned theological system which, from the banks of the Nile, conveyed from country to country by commerce, war, and conquest, invaded all the old world; and which, modified by time, by circumstances, and by prejudices is still to be found among a hundred nations, and subsists to this day as the secret and inseparable basis of the theology of those even who despise and reject it."

For the genesis of deity then, under every conceivable form, as also for the origin of the soul, we must go back to uncivilized man; though it is true many races have existed, and do exist at the present

moment, without the slightest idea of a god, soul, or future state. The most favoured argument of the majority of Christians for the existence of their god, or rather gods, for they really have *three*—is, they allege, the universality of the belief in a supreme being or beings. But it is well known, from a wide induction of experience, that there are many primitive people who do not possess any religious conceptions whatsoever; have no idea of a god or of a future state of existence. It is also known that among civilized people those minds which through defective senses have been cut off from instruction have no religious ideas.

The universality argument therefore falls to the ground, since it is proved conclusively that the ideas of a deity and of a future life are not innate in the human mind; but, as we shall see, are arrived at, as every other item of knowledge is reached, through the experience of the senses. Those who wish to know how absolutely non-existent among many races are all religious ideas should consult Sir John Lubbock's *Prehistoric Times*, and his *Origin of Civilization*. In these works will be found ample evidence that religious ideas cannot have that supernatural origin which is commonly claimed for them.

The following conversation, which took place between Sir Samuel Baker and a chief of the Latooki, a Nile tribe, is instructive in many ways. I have taken if from Mr. Herbert Spencer's *Ecclesiastical Institutions*, a work to which I am much indebted.

"'Have you no belief in a future existence after death?'

Commoro (loq.).—'Existence *after* death! How can that be? Can a dead man get out of his grave unless we dig him out?'

'Do you think man is like a beast, that dies and is ended?'

Commoro.—'Certainly; an ox is stronger than a man; but he dies, and his bones last longer; they are bigger. A man's bones break quickly—he is weak.'

'Is not a man superior in sense to an ox? Has he not a mind to direct his actions?'

Commoro.—'Some men are not so clever as an ox. Men must sow corn to obtain food; but the ox and wild animals can procure it without sowing.'

'Do you not know that there is a spirit within you more than flesh? Do you not dream and wander in thought to distant places in your sleep? Nevertheless your body rests in one spot. How do you account for this?'

Commoro, laughing.—'Well, how do *you* account for it? It is a thing I cannot understand; it occurs to me every night."

* * * *

'Have you no idea of the existence of spirits superior to either man or beast? Have you no fear of evil, except from bodily causes?'

Commoro.—'I am afraid of elephants and other animals when in the jungle at night, but of nothing else.'

'Then you believe in nothing; neither in a good nor evil spirit! And you believe that when you die it will be the end of body and spirit; that you are like other animals; and that there is no distinction between man and beast; both disappear, and end at death?'

Commoro.—'Of course they do.'"

Baker then repeats St. Paul's argument about the decaying seed, to which Commoro replies :—

"'Exactly so; that I understand. But the *original* grain does *not* rise again; it rots like the dead man, and is ended; the fruit produced is not the same grain that we buried, but the *production* of that grain: so it is with man,—I die, and decay, and am ended; but my children grow up like the fruit of the grain. Some men have no children, and some grain perish without fruit; then all are ended.'"

It will be seen that though this chief had no belief in a future life, and no idea whatever of any distinction between man and beast after death, he yet had very correct knowledge of the natural laws of generation and decay; and in this respect showed himself, as Mr. Spencer says, "to be more acute than his questioner." To the thoughtful mind there is much matter for reflection in this conversation. The highly civilized, "cultured," Christian gentleman, with his assumption of lofty superiority on the one hand; and the uncivilized, uncultured, unchristian savage on the other, stand upon the same level as regards all positive knowledge of the subject of the Christian's interrogatories. And so far as the Christian's argument from the seed is concerned, he and the savage ought certainly to change places. The truth is, from the rudest conceptions of the savage mind up to the most elaborate and complex metaphysical abstractions of the schoolmen, no progress in actual knowledge of the so-called "soul" has been or can be made. The question is, How did man first come to believe that he had a soul?

At the earliest dawn of intelligence the mysteries of death, sleep, and other unconscious states necessarily force themselves upon the mind. The uncivilized man lies down, and becomes for several hours oblivious of the actions of his senses and all around him; and, when not dreaming, quite unconscious of his very existence. Under the influence of some fits, he appears quite lifeless, and those around him are unable to say whether or not he is living or dead. And when death has really taken place the body is rarely disposed of until decomposi-

tion renders it absolutely necessary. During the unconscious state of sleep he sometimes dreams, and on awakening he remembers, with more or less vividness, having performed certain actions, held conversations with certain people, and travelled about to different places. In short, he is quite convinced that during the hours his body lay in one place motionless, helpless, unconscious, some other part of him was awake and active, and going through the ordinary routine of daily life. In his waking hours these dreams bear a close resemblance to his remembrance of actual events in his life ; and the conclusion seems irresistible to him, that, in addition to his bodily self, he must possess another and unsubstantial self.

This belief would be strengthened in many ways. Does he not frequently see this "double" of himself following him about in the shape of his shadow, and vanishing and returning in the most unaccountable manner? Mental visions are familiar to him, as they are to man in every stage of civilization. Many of his nervous states would impress him with a feeling, amounting to conviction, that he was surrounded by unseen living agents. And how could he account for such existences, other than by ascribing them to the doubles, ghosts, spirits or souls (they all mean the same) of those whose bodies were quiescent for the time being in death or otherwise? Manifestly the ghost theory is the simplest and most natural that could possibly occur to the untaught mind. Nay, does not the belief in ghosts hold its own to-day among millions in the civilized parts of the world.

Along with belief in the existence of the double which survives the bodily life goes the belief that this spirit possesses supernatural powers, for good or for evil. And it is worthy of note, as significant of the purely natural genesis of the spirit idea, that the influence ascribed to the dead is in proportion to the power they exercised while in the bodily life; and the propitiatory offerings the same in both conditions.

In Australia, when a chief or other notable personage dies, the medicine-man—who corresponds to our clergyman—sits beside the grave praying to and praising the deceased, and listening for his replies. The medicine-man is the mediator between the superhuman spirit of the departed chief, and his tribe; and he takes good care that the spirit shall be very peremptory and precise in his injunctions to the tribe to bestow abundance of worldly goods on the medicine-men.

The supernatural power ascribed to the spirits of the dead causes them to be worshipped as gods. The Japanese say "that the spirits of the dead continue to exist in the unseen world, which is everywhere about us, and that they all become gods of varying character and degrees of influence. . . . The gods who do harm are to be appeased, so that they may not punish those who have offended them; and all the gods are to be worshipped so that they may be induced to increase their favours." From this we conclude that the Japanese gods have been derived from the spirits of the dead. In India, also, divine honour is paid to the spirits of departed chiefs. Again, among the early Greeks, down to the time of

Plato, the belief strongly prevailed that it was necessary to avert the wrath of the departed by the observance of prayers and rites. Mr. Herbert Spencer says: "We get from this kinship of beliefs among races remote in time, space and culture, strong warrant for the inference that ghost-propitiation is the origin of all religions. . . . That religions in general are derived from ancestor-worship, finds proof among all races and in every country."

The doubles of the dead are with all peoples the same as the living in their appetites and passions; and there is a close parallel between the imagined occupations of the spirits in the other world and their life in this. Even among advanced peoples the social arrangements here are believed to be repeated hereafter in heaven, where the gods are pictured, seated on their thrones in their palaces, administering justice, receiving the homage of their subjects, and otherwise re-enacting the scenes of this life. That the early English claimed for their great men some sort of approach towards equality with their gods is curiously shown by a passage Kemble quotes from King Alfred, relating to compounding for crimes by a money payment in all cases, "except in cases of treason against a lord, to which they dared not assign any mercy; because Almighty God adjudged none to them that despised him; nor did Christ. . . . adjudge any to him that sold him unto death; and he commanded that a lord should be loved like himself."

The burning of incense is a very old custom among some savage races; and is still, as every one

knows, an important part of the ritual of Roman Catholicism. So also is the making of grave-heaps. "Along with the development of grave-heaps into altars, and grave-sheds into religious edifices, and food for ghosts into sacrifices, there goes the development of praise and prayer.

"The mind of the savage, unable to distinguish between semblance and reality, invests the rude images of the departed with the properties of the living; and to such an extent is this carried, that idols are actually fed and prayed to." Livingstone says, referring to the idols made by the people west of Lake Nyassa: "They present pombe, flour, bhang, tobacco, and light a fire for them to smoke by. They represent the departed father or mother, and it is supposed that they are pleased with the offerings made to their representatives. . . . Names of dead chiefs are sometimes given to them." With the Bhils: "Their usual ceremony consists in merely smearing the idol, which is seldom anything but a shapeless stone, with vermilion and red-lead, or oil; offering, with protestations and petition, an animal and some liquor."

In this manner the fetichism which invests every rude likeness to the human form with the ghost of the dead is developed, until the idol is really supposed to be inhabited by the spirit of the dead man whom it is taken to represent. Out of this rude beginning has grown the whole elaborate system of idol manufacture and worship, which is still seen all over Christendom.

The serpent that tempted Eve is a very old and wide-spread religious symbol. There is something

about the serpent which seems to lend itself readily to typifying the cunning and the wily. The quiet, gliding motions, the cold glitter of the eye, without the faintest ray of intelligence or expression, the beauty and symmetry of form, and deadly nature of the bite of some, altogether produce in the mind an unusual feeling of dread and repugnance. It was probably the recognition of these qualities which caused the serpent to be selected to represent the spirit of evil.

Some snakes are given to visiting houses, and they have been known to frequent the same house for many years where the inhabitants regularly placed food for them. It is supposed that ghosts often return to their former homes, and this gives rise to the belief that snakes are embodiments of them. A multitude of Indo-European peoples regarded snakes as domestic divinities, and would have been in the greatest despair if any harm came to one of them. The rattlesnake was regarded as an evil god, as well indeed he might be! Snake worship forms a cult, which is very widespread even at the present time. But though there are many forms of belief connected with it, the principle is the same in all, viz., that the snake is believed to be a material embodiment of a spirit, it may be of an ancestor, or of a chief, and as such is looked upon as a god. In Egyptian theology the serpent is represented as the spirit of evil, whence the idea was borrowed by the Christians.

Mr. Herbert Spencer says, "Nature-worship is an abnormal form of ghost-worship." Sun, moon, stars, etc., being names applied to certain chiefs and

others, came in time to be personalized phenomena; and when the sun-chief has disappeared from the earth, the identification of his spirit with the sensible object bearing his name is a simple and natural transition. The sun, being in all ages the great emblem of power and life, kings and chiefs are likened unto him, and bear the name of sun. Egypt affords many such illustrations. An inscription from Silsilis runs: "Hail to thee! King of Egypt! Sun of the foreign peoples! . . . Life, salvation, health to him! he is a shining sun." Influences of very complex character assist in the creation of gods; and we cannot draw a hard and fast line around any group of facts and say through these alone this or that conception of deity was arrived at. Apart from the naming of great personages after the sun, and the tendency to which this would give rise to transfer the worship of the spirit of the departed to the sun himself, there must also have been a numerous and complex group of influences always at work, impressing the mind of uneducated men with the belief that the sun was a great living god. The sun's apotheosis has been due in measure, no doubt, to his own attributes, as well as to the confusion of metaphor with fact.

"In their normal forms, as in their abnormal forms, all gods arise by apotheosis."[1] The Greeks and the Romans both made gods of their great men, and emperor worship became a developed cult. "In every one of the Gaulish cities, a large number of men, who belonged to the highest as well as to

[1] Herbert Spencer, *Ecclesiastical Institutions*, p. 687.

the middle classes, were priests and flamens of Augustus, flamens of Drusus, priests of Vespasian or Marcus Aurelius. The statues of the emperors were real idols, to which they offered incense, victims and prayers." The same ideas leading to such cults were familiar to other European peoples.

In the popular mind the existence of spirits was an unquestioned fact; and as they were believed to possess all the parts of living mortals, it was not an unusual thing for "virgins" to give birth to spirit-begotten children. In Navigator's Islands "they have an idea, which is very convenient to the reputation of the females, that some of these *hotooa pow* (mischievous spirits) molest them in their sleep, in consequence of which there are many supernatural conceptions."

The Babylonians, as well as many other peoples, held similar belief; and even in Europe, down to comparatively late times, there was a wide-spread belief in incubi and succubi. The Virgin Mary and the Holy Ghost idea was, therefore, by no means original; on the contrary, it was paralleled in innumerable instances among different peoples in different parts of the world. Among the Greeks, as is well-known, there were many god-descended men, Æsculapius, Pythagorus, Plato and others. Nebuchadnezzar, the Assyrian King, was said to have been god-begotten. Almig Goa among the Mongols, having herself had a spirit father, gave birth to three children, all of whom were spirit-begotten. A virgin of the sun in ancient Peru had but to declare that her pregnancy was due to the sun-spirit, and she was believed, unless there was proof

to the contrary. The great god Tangaron, among the inhabitants of Mangaia, is credited with being the father of the two sons born by Ma-Ani-Vai. Similar cases might be cited almost without number of ghosts or spirits having intercourse with virgins, and producing, as the fruit of such intercourse, offspring differing in no respect in their mode of life and death from other mortals.

Compare these cases with that of Mary and Jesus, and wherein do they differ? And yet the Christians habitually speak of the story of their god-descended person as though it were special to their religion, and the only one known to history! when the fact is it was common to the world years before the birth of the carpenter's son of Nazareth. There is nothing exceptional about any one of them: they all bear the same family likeness, and are *all* due to similar causes. They were the products of unenlightened ages; and to-day they are impracticable, solely because the mind of man has reached a stage in development which renders the acceptance of any so-called supernatural events an utter impossibility. It is true the religious jugglers still seek to impose upon the ignorant and credulous by asserting that what they call miracles still occur. They are not, however, of a very momentous character, being confined chiefly to the facial antics of statues; for the bag of tricks is nearly exhausted.

Again, in regard to the Trinity. Perhaps of all the elements of religious faith common to man, there is none so widespread and so deeply rooted as this. From the earliest times to the present, trinities in some form or other have formed essential parts of

religious systems. Sometimes they appear in the form of personalized gods, at others under the characters of principles, and again as expressing productive and other active powers of Nature. Each great centre of Egypt had its trinity. In Thebes it consisted of Amun, the superior god, Maut the mother, and Chous the son, who, like the son in the Christian trinity is confounded with and inextricably mixed up with the father. The trinity of Memphis was composed of Phtha, Pasht and Mouth: these three beings were held to personify the powers of Nature; and, like the first-named triad, are father, mother and son. Mouth, with his consort Ritho, and their son Harphré, formed the trinity at Hermonthis. But the most widespread and popular of all the Egyptain trinities was Osiris the father, Isis the mother, and Horus the son. This trinity was revered throughout Egypt.

The ancient Persians had their trinity, which they worshipped under the form of three principles. The Hindoos have their Brahma, Vishnu, and Shiva, while the religion of Buddhism is also pervaded by trinitarian conceptions, bearing a strong resemblance to that of Christianity. Among the Greeks the same ideas under various forms are to be found. Plato's divinity is a tripartite conception which admits of a variety of interpretations.

Referring to the Christian trinity, the Rev. James Gardner, in his *Faiths of the World*, says: "But so many traces of it are found in the religions of all heathen nations, that many have been led to consider it as a doctrine of the primeval religion, and handed down by tradition." And no doubt

this is so. The Christian trinity is but a variation of the others, and differs from them chiefly in being more mystical, and requiring in its believers a greater amount of faith, and a less degree of intelligence. In the representations of Horus we find a halo round his head, as we see it in those of Jesus; and Isis the mother corresponds in all respects with the Virgin Mother Mary; while the attributes of the father have a kindred relationship in all religions, they are neither more nor less than the exaggerated passions of man: war, hatred, blood-thirstiness, revenge, etc. From the Christian's god some of the passions have now been eliminated, though he is still a god of war, vengeance and jealousy, as well as of love. The historical and natural evolution of the Christian trinity is as well established as any other fact of history.

If we consider this subject from the point of view of human progress, we shall find that all the facts connected with trinities and other gods are congruous with such progress. All god-makers have necessarily been men of crude uncultured mind; men in the early stages of intellectual development; and they could not rise above their own level in their conceptions of their gods, any more than in their conceptions of other things: and therefore it was a natural consequence that their self-evolved gods should be endowed with the qualities of their prototypes. Every man-conceived god, from the lowest to the highest, must of necessity possess human attributes only—must of necessity, *i.e.* be an anthropomorphical being, finite and conditioned. And so long as man will persist in defining his god, so

long must that god be in *every conceivable attribute* nothing more than a *magnified man.*

No person of unprepossessed mind can consider the description which the Christians themselves give of their god without coming to the conclusion that his genesis has been, like that of all other gods, a purely natural process. Nor can the student of genealogical religious history ascribe to the Christian trinity an origin different from those of all other trinities. It is undoubtedly derived from older triads, as every other element in the religion current among us is also derived from older or contemporaneous religions. These are plain matters of history, which the ingenuous mind in search of truth, and open to its reception under all forms, cannot any longer continue to doubt, any more than it can doubt other well-authenticated facts of history or proved truths of science. All the religions of what is called the heathen world had their trinities in some form or other, as well as a multiplicity of other gods. And even Islamism, which professed as the principal if not the sole object of its existence the promulgation of a faith in one god only, implies in some respects the existence of more gods than one.

The truth is that the conception of one god only, though falling far short of the scientific conception of the unity of Nature, yet approaches it sufficiently near to require a degree of mental development to which no religious bodies — except, perhaps, the Unitarians—have yet attained.

No doubt Egypt exercised considerable religious influence over both Greece and Rome. Indeed, in the time of the Ptolemies, the worship of the bull

Apis, or Serapis, as the Greeks made it, became the religious bond between the old Egyptians and the Greek colonists. No two peoples, whose civilizations represent a near approach towards each other in general progress and culture, can mingle much together without being influenced considerably by each other's religious beliefs. And that this has been so throughout history, all *independent* testimony goes to prove; while, on the contrary, we have ample evidence that when two civilizations, differing very widely in character and development, come together, the religious views of the one will exercise little or no influence over the religious views of the other. In proof of this we need but point to our connection with East India. We have held the country for more than a century; we are absolute masters of the lives and fortunes of its teeming population; we have spent millions of money in erecting places of worship, and sending out missionaries to all parts, and yet we have made absolutely no impression upon the people of India by way of converting them to Christianity. India swarms with missionaries, and all they can show for their labour are a few converts here and there among the poor outcasts of the population, who for the consideration of a few rupees, would profess their belief in any religion which the missionaries chose to put before them. These are sweeping assertions, but I believe they will be corroborated by all *independent* evidence from India.

The more closely we enquire into the elements of the Christian religion, the nearer we get to their *natural* origin, and to their kinship with religions

in general. In no respects can it be shown that the religion prevalent among us differs from all others in its origin; and in its elaboration and growth, beyond all doubt, it has followed the natural laws of social and intellectual development. It is historically true, as Mr. Spencer has shown beyond question, that Christian priests are the modern representatives of the weather-doctors and medicine-men of savage races; and in many ways the duties of the Christian priest are similiar to those of his barbarous prototype. A satisfactory distinction between priests and medicine-men is difficult to find. Both are concerned with supernatural agents, which in their original forms are ghosts.[1] The medicine-men prayed to their gods to send them fine weather, our clergymen do the same. The medicine-men prayed for victory in battle, our clergymen offer up prayers for like results, regardless altogether of the justice of their cause. Witness the following prayer, directed by the Archbishop of Canterbury to be read on the occasion of the late war in Egypt:

"O Almighty God, whose power no creature is able to resist, keep, we beseech Thee, our soldiers and sailors who have now gone forth to war, that they, being armed with Thy defence, may be preserved evermore from all perils, to glorify Thee, who art the only giver of all victory, through the merits of Thy only Son, Jesus Christ our Lord. *Amen.*"

Apart from the futility and childishness of such a performance, what can we, in common honesty, say

[1] H. Spencer, *Ecclesiastical Institutions*, p. 705.

of a religion whose priests in such fashion pray for victory, in our brutal and unjust attacks upon an already oppressed and long-suffering people, and who, as Mr. Spencer says, "are trying to throw off an intolerable tyranny?" Consider also the mental condition of the man who could sit down and seriously write such a prayer; and, above all, consider the mental condition of a people who consent to pay him £15,000 a year for the performance of such valuable "duties." In this connection do we not still see rude man's primitive chief god, as well as the Hebrew's "god of battles," "the man of war," "the strong one," whose assistance is to be obtained by supplication and prayer, as of yore, in the perpetration of outrage and injustice, by irresponsible authority? Do we not, I ask, see in the Christian's god of to-day, as portrayed in the prayer of the head of the Christian Church in England, a family likeness to his prototypes, to whom all savage peoples have prayed for similar assistance under similar circumstances? Wherein does the Archbishop of Canterbury differ from the medicine-men of the savages? or his god from those of the medicine-men? If there is a difference, it is in favour of the savages; for they waited for a sign from their gods, before concluding that their prayers were favourably received. The self-righteous priest of to-day takes it for granted that his prayer will be answered, and requires no sign. He is wise in his generation, for he knows full well that the day of signs is past.

We have seen that in uncultivated man the supposed reality of dreams gave rise to a belief in the

reality of ghosts, and that from ghosts arose the belief in supernatural beings of every description. This is the subjective side of the origin and development of *all* gods. How far it has been assisted by the deification of natural objects, and the interaction of the two groups of factors, we need not here inquire. That *both* have played a prominent part seems to me conclusive, on *a priori* grounds. Seeing the heavenly bodies move, and believing that motion of every description was due to living agents, it was as natural to ascribe life to them as it was to believe in a double or ghost from the supposed reality of dreams.

In the religion of the Hebrews we find the same ghost-theories as elsewhere. The dead were believed by them to hear and answer questions; and food and drink were supplied to them. The spirit was supposed to haunt burial-places; and the demons, by entering into men, caused all the maladies and sins of life. Like the present savages, the Hebrews were addicted to charms, amulets, exorcisms, etc.; and had their functionaries who corresponded to medicine-men. "Familiar spirits," "wizards," seers and prophets were consulted on various subjects. Samuel was a weather-doctor, and was believed to have power over rain and thunder.

Many Hebrew traditions are similar to those of other peoples. The legend of the deluge is paralleled by those of the Hindus and the Accadians, from the latter of whom it was probably taken. We read that Manu was directed by Vishnu to build an ark to escape the flood, and that it came and swept

away all living creatures except Manu. So with regard to the birth of Moses; its counterpart is found in an Assyrian story of the birth and adventures of King Sargina. "My mother," he said, "brought me forth in a secret place, she placed me in an ark of bulrushes, she threw me into the river," etc. Again, with regard to the Sabbath and its observances: "The Assyrian months were lunar . . . the seventh, fourteenth, twenty-first, and twenty-eighth days being the sabbaths. On these sabbath days extra work, and even missions of mercy, were forbidden . . . The enactments were similar in character to those of the Jewish code."

Between Egyptian and Hebrew theology there is also a close resemblance. With both, as with other peoples, a god simply meant a strong person, to whom it became customary to offer worship. "Abraham was a demi-god, to whom prayer was addressed." "They sacrificed unto devils, not to God; to gods whom they knew not, to new *gods that* came newly up, whom your fathers feared not" (Deut. xxxii. 17). That the Hebrews believed in more gods than one is proved by Solomon's sacrifices to them, and by the denunciations of prophets.

As the scriptures show that Jahveh was a god among many, who eventually became supreme, so also they show us what was his nature. He came down and conversed freely with men, and inspected their work—the city and the towers "which the children of men had builded." We are told that he walked in the garden of Eden, and talked in human fashion. We are further told that Jacob actually

wrestled with the Christian's god; and that Moses spake to him face to face, as one friend speaks to another. Would it not be in keeping with this character to picture the Christian's god coming down among us now, and wrestling with men? I put it seriously, whether in so doing there would be anything inconsistent with the character of the god of the Bible? I can as readily picture him wrestling with a man to-day, as with Jacob a comparatively few years ago. Why not? Is his nature altered since he came down and wrestled with Jacob? Or are the circumstances of man's life and the world so greatly changed?

"The god of Israel" was clearly but a local god, and one among many others. He commands the Israelites to worship none but himself, implying thereby that there were other gods. This is further shown in the language of the Hebrews, where they speak of "One" god to distinguish him from others. The Hebrews recognised in their god limitations of power; he is actually said to have failed in his attempt personally to slay Moses! The Israelites, fighting under his instructions and with his assistance, were beaten by the Philistines, when "the ark of God was taken" (1 Sam. iv. 3–10). We are also told that though "the Lord was with Judah we could not drive out the inhabitants, because they had chariots of iron!" This god repents of what he has done, boasts of his glory, and describes himself as jealous and revengeful, and declares that he will mercilessly destroy his enemies. He candidly confesses that he is a false, deceitful, and lying god; as when, for example, he directs a

prophet to prophesy falsely, intending then to destroy him (Ezekiel xi. v. 9); when he hardens men's hearts that he may punish them for their deeds. He prompts David to number Israel, suggesting an imaginary sin, that he may punish those who have not committed it. Offerings of various kinds are made to this god, such as bread, meat, fat, oil, drink, fruits, etc.; and he is said to enjoy the "sweet savour" of burnt offerings, "like the idol-inhabiting gods of the negroes."

Of all the offerings to the Christian's god, *blood* was the most acceptable. The blood of sacrificed men and animals was offered alike by the ancient Mexicans, Central Americans, Egyptians, Greeks, and Hebrews to their gods. The Hebrews, Greeks, and Peruvians were commanded by their various religions to offer to their gods in sacrifice unblemished animals only. In Leviticus, certain parts of the animals are reserved for god, while other parts are given to the priests.

The tale of Moses bringing down the tablets from Mount Sinai, alleged to have been given to him by god, is paralleled by the legend that from Mount Ida in Crete, Rhadamanthus first brought down Zeus' decrees. The councils held by the Christian god for various purposes are similar to those held by the gods of the Greeks and the Egyptians.

As the Hebrews allege the fulfilment of certain prophecies, so do the Greeks, who similarly took them as evidence of the truth of their religion. Mr. Herbert Spencer says: "The working of miracles, alleged of the Hebrew god as though it were special, is one of the ordinary things alleged of the gods of

all peoples throughout the world." In all religions of early times gods are familiar personages; they move among the people, converse with them in a friendly way, and in other respects behave exactly as the Hebrew god is said to have done. It does not matter to which part of the Christian religion we turn, we find its prototype in some other and older religion. Our sacred wars to obtain possession of the sepulchre are paralleled by the sacred war of the Greeks to obtain access to Delphi; and as, among Christians, part of the worship consists in reciting the doings of the Hebrew god, prophets, and kings, so the religion of the Greeks consisted, in great measure, in reciting the deeds of the Homeric gods and heroes. Wealthy people among the Greeks subscribed large sums for the building and decoration of their places of worship, as offerings to god for his favour and forgiveness, as rich Christians give large amounts for the erection of churches and cathedrals for a similar purpose. We read in Grote: "The lives of the saints bring us also back to the simple and ever-operative theology of the Homeric age." In common with Christianity, many religions in the new and old worlds show us baptism, confession, canonization, celibacy, the saying of grace, and other observances.

"What are we to conclude," Mr. H. Spencer asks, "from all this evidence? What must we think of this unity of character exhibited by religions at large? And then, more especially, what shall we say of the family likeness existing between the creed of Christendom and other creeds? . . . The worships of the supposed supernatural beings, up even to the highest, are the the same in Nature, and differ only in their degrees of elaboration. What do these correspondences imply? Do they not imply that

in common with other phenomena, displayed by human beings as socially aggregated, religions have a natural genesis?

"Are we to make an exception of the religion current among ourselves? If we say that its likenesses to the rest hide a transcendent unlikeness, several implications must be recognised. One is that the cause, to which we can put no limits in space or time, and of which our entire solar system is a relatively infinitesimal product, took the disguise of a man for the purpose of covenanting with a shepherd-chief in Syria. Another is that this energy, unceasingly manifested everywhere, throughout past, present, and future, ascribed to himself under this human form, not only the limited knowledge and limited powers which various passages show Jahveh to have had, but also moral attributes which we should now think discreditable to a human being. And a third is that we must suppose an intention even more repugnant to our moral sense. For if these numerous parallelisms between the Christian religion and other religions do not prove likeness of origin and development, then the implication is that a complete simulation of the natural by the supernatural has been deliberately devised to deceive those who examine critically what they are taught. Appearances have been arranged for the purpose of misleading sincere inquirers, that they may be eternally damned for seeking the truth.

"On those who accept this last alternative no reasonings will have any effect. Here we finally part company with them by accepting the first; and accepting it, shall find that ecclesiastical institutions are at once rendered intelligible in their use and progress."

Those who wish to understand fully the origin and progress of the Christian religion, and its kinship with other religions, should consult Mr. Herbert Spencer's *Ecclesiastical Institutions.* In this work every detail is traced to its origin, and every so-called supernatural element is shown to be connected with, and to have sprung from, similar elements in other religions. The pretentions of Christianity to a supernatural origin are proved to be without the slightest foundation; and no one

with an unfettered mind can read his analysis without coming to the conclusion that this religion, like all others, is a purely human product, both in its origin and growth. Many thinkers before Mr. Spencer have, as is well known, come to the same conclusion; but few have so exhaustively proved in detail the natural origin and character of every item of Christianity.

CHAPTER VI.

JESUS.

When David Strauss first published his great work, *The Life of Jesus*, Christendom was still under the influence of the Church to such an extent that few, among even the great thinkers, dared to breathe a suspicion against the divinity of the so-called founder of Christianity. For more than a thousand years the religious power, in alliance with the civil authority, had been supreme; and the way that power was exercised against all who dared to question, or were suspected of doubting, the truth of any of the dogmas of the Church, might well cause the boldest to shrink with fear from the consequences of giving expression to the lightest words of dissent. It is true that when Strauss wrote, the power of the Church to enforce obedience to her dictates, by torture and the stake, had for some time ceased; but the social influence still brought to bear upon unbelievers in his day can scarcely be overstated.

He boldly faced in the interest of truth the odium and social persecution to which he was subjected on all sides; and the services he rendered to freedom of thought and progress was at once recognised throughout Europe and America by the expressions of approval which were bestowed upon his work by

those to whom it had given courage to speak out their inward convictions. Men began to breathe more freely, and henceforth the divine character of Jesus, and even the question of such a person ever having existed, became subjects of controversy.

When Renan, some few years later, brought out his *Life of Jesus*, the views of Strauss had made great headway, and it was received with universal approval and enthusiasm. These works were the outward expression of the inward thought and belief of thousands of the best minds; and Renan, while being honoured abroad, received the highest literary recognition in his own country.

The Christian religion had long been accustomed to drop its dogmas one by one before the advance of rational thought and science; but to dethrone its founder from his godhead was to strike at the very foundation of the creed. And we can well understand the natural rage and indignation with which the Church and its followers received the above-mentioned works, especially the latter, which, from its more popular style and great celebrity of its author, was read far and wide. Take away the divinity from the carpenter's son, reduce him to his natural and proper human conditions, and the basis of the Christian religion is gone; and this is precisely what Strauss and Renan have done.

No amount of scientific or logical reasoning, no induction of facts showing the natural origin and derivation of Christianity from and its connection with other religions would strike the public mind so forcibly as the calm and deliberate assertion of two very eminent writers, that Jesus was merely a man,

the child of his father and mother, as every other human being is; and that from his birth to his death the events of his life were those of a mortal man merely, possessed undoubtedly of much insight, great courage and ability, a warm heart, and a great soul—qualities which thousands of men and women, too, have possessed before and since his time. To the simplest mind the fact must be obvious that if this poor man, who was ignominiously put to death as a malefactor, were not god, then there is no foundation for the divine character claimed for the Christian religion.

The repugnance with which the cultured intellect of to-day regards the assumption that the great Cause of the Universe became incarnated in a poor, frail, helpless creature, admits of no palliation from any conceivable source; while from a thousand considerations the bare possibility of such a thing becomes *absolutely unthinkable*. In past ages, when the mind was furnished with little knowledge, the idea was conceivable, and perhaps quite natural, as it is at the present time to the uncultured of all grades of society. But to those of our race, to the labour of whose intellects human progress is due, the idea of the Infinite Power and Cause of all things in the carpenter of Nazareth is not merely an unreasonable idea, it is to the better order of minds an *unspeakable absurdity*, and can find no place in the mind that is accustomed to the consideration of the higher questions of knowledge. And history informs us that this has been the case with the exceptional few ever since the beginning of the Christian era.

From all we know about Jesus, if he ever existed, he was what we should call to-day a Socialist reformer, and taught the equality and brotherhood of man, much in the same fashion as the Socialists are now teaching these hateful doctrines. The words ascribed to him are similar in import to those used by great-hearted, far-seeing reformers in all ages. He preached against, not only the narrow religious prejudices of his time, but also against the injustice which the poor are ever made to suffer at the hands of the rich and powerful. I confess I like to think of Jesus as having existed, as we are led to believe he did. To me he is a grand figure in history. I love the man ; and it is a melancholy pleasure to picture him poor and lonely, stern and rugged, with the fire of a great and righteous indignation burning in his heart against those inequalities of human conditions to which the mass of suffering around him was due.

In those distant times he stands out a truly sublime figure, denouncing and defying the whole power of the Sanhedrim, as he is hunted from pillar to post, preaching in the market-place, by the wayside, and wherever he could get together his fellow men, that eternally perennial truth, which grows as man grows, and under all vicissitudes has never failed to keep its hold over the human soul, viz., the brotherhood and equality of man. Little could he foresee that around his name was to grow up a gigantic power, which for centuries was to paralyse the mind, stop all progress, quench the light of learning which had arisen in Greece and Rome, and plunge the world into almost barbaric ignorance and darkness. From

the warmth and passion of his heart he denounced injustice and oppression ; and in the grandeur of his soul he sought to raise men's minds to the perception of the true dignity of human nature. In every creature of human mould he saw the image of his maker ; and he recognised no distinction between man and man, except those arbitrary and unjust distinctions which avarice and power had created, and custom had crystallized into a social system. The poor and the lowly were under the iron heel of oppression then as now ; and having himself been born in the ranks of the people, he became their champion. But independently of the accident of birth Nature had endowed him with the true reformer's fearless impatience of the arrogant assumptions of those who in their brief day of advantage lord it over their unfortunate brethren. He saw clearly the true circumstances under which men were enabled to hold and wield power ; and he never lost sight of the fact that the most worthless of men, the poorest in character and genius, could, under the operation of those impersonal circumstances, attain to the highest positions in the state, in virtue of which they subjugated the mind and obtained the slavish submission of the people.

He spent his brief life in trying to open men's eyes to these truths ; and, like many ardent, generous and enthusiastic reformers since his time, he thought that to proclaim the truth was to ensure its immediate acceptance. In the earnestness of his nature, and singleness of purpose, he did not recognise the complexity of human nature in all its fulness. He could not, therefore, make sufficient allowance for

the melancholy truth, that when an error is strongly rooted in the feelings reason is powerless to extirpate it until those feelings relax their hold upon us. The vast amount of human emotion that has gathered around the figure of Christ has enclosed him in such a halo of divine sanctity, that even those who regard him in his true light feel, to some extent, the influence of the almost irresistible spell.

If Jesus lived in the flesh, and is not merely the representative of a principle, an aspiration, he was probably some such man as briefly depicted above. The miracles attributed to him are of course myths, as are all those attributed to the founders of other religions, and innumerable other persons. Miracles are now so discredited and out of date with all persons, intelligent and otherwise, that nothing further need be said about them here. Volney's saying, that it would be easier for the whole of the human race to be in error, than for the smallest atom to change its nature, is a perfect answer to every so-called supernatural event. Hume effectually disposed of miracles, and no one now regards them in a serious light. Even the Church has silently abandoned them, after stoutly upholding them as long as any part of the public could be found to lend an attentive ear in toleration of their advocacy. Here and there a clergyman, less wise than ordinary, may be found still reaffirming his belief in miracles; but practically they have dropped out of the public mind.

It matters not to the world whether a man named Jesus, to whom is attributed the foundation of the Christian religion, ever lived or not. Jesus the man,

or Jesus the myth, is all one to us to-day. The ideas that are attributed to him were reinfused into men's minds and hearts at that time; and this is the important point to us. For the promulgation of such ideas no man in those days would have escaped crucifixion. If he impeached the authorities, they undoubtedly crucified him, a mode of execution which was in use then as hanging is now. In this there is nothing unusual. Thousands were crucified for less offences than his against the governing powers of the time; and thousands have been crucified since. Alexander crucified two thousand prisoners in revenge; and a Roman emperor crucified four thousand victims in one day. How very easy it is to write the word *crucifixion*, how impossible to realize the awful barbarity and agony of such a death! Why did the god of the Christians permit it, may we not reasonably ask? Was it for love of the victims? Methinks one would forego even a god's love to escape such an agony, and at the end of this life lay down one's head in everlasting forgetfulness rather than trust to the eternal mercies of such a god.

At the time when Jesus is supposed to have been born, the Jews were in subjection to the Roman power; and the accumulated forces of social discontent, engendered by the contemptuous treatment and tyranny of the conquerors and other causes, filled men's hearts with a passionate longing for social revolt of some kind or other. They were the days of religious fervour and excitement; and the nervous condition of the public mind was such that it was prepared to accept, and was indeed on the

look out for, portents and signs of a supernatural character, in fulfilment of certain alleged prophecies. The mind was filled with expectations of the advent of a Messiah of some kind or other, whether in the shape of a king, a leader, or possibly the promulgation of those ideas of liberty which should fire men's souls for the accomplishment of great deeds. The people were tired of the Roman yoke, and the human spirit probably aspired to take another step in that upward progress towards the ideal goal. Humanity had, in fact, arrived at one of those crises through which every now and again it bursts the bonds of the old order, and enters upon the succeeding new. And if the germs of this social revolution had had natural growth and development, probably the whole course of subsequent history would have been very different. If, instead of becoming a mind-enslaving creed, it had allied itself with the learning of the Greeks and others, civilization and progress, instead of having been arrested and put back, would have gone on with greater rapidity than ever, and the world would have been spared that backward course which we lament as the dark ages.

Unquestionably some of the teachings of Jesus, or those which go under his name, were in advance of the general state of the public mind of his day; but there was nothing in them which had not been known for centuries to the thoughtful few. The miserable religions of Greece and Rome were never seriously believed by the intellectual Greeks and Romans; nor, indeed, is any religion the faith of the enlightened few among the people professing it. The unity of god, as taught by Jesus, was rather

behind than in advance of the conception held by the philosophers, which approached nearer to the present scientific conception of the unity of nature. The anthropomorphic attributes of the god of Jesus were, long before his time, discovered to be inapplicable to the Infinite cause, the Supreme Power; but Jesus does not appear to have had any knowledge of the higher philosophy, judged by which his assertions respecting the Infinite furnish their own disproof. The Greek aphorism that "the highest of all knowledge is to know that you can know nothing," would have been to him quite unintelligible. So far, therefore, as the development of mind is concerned, Jesus was, undoubtedly, inferior to many other men of his time. A greater power of intellect than he possessed had been attained by man hundreds of years before he was born. In point of intellectual power Gotama, the founder of Buddhism, who lived nearly a thousand years before his time, was greatly his superior.

This, however, is no disparagement of the man Jesus. His work in life was not to teach intellectual truths, but to rouse men to a sense of their degraded condition; and to impress upon all the knowledge and conviction that the inequalities of social conditions, with all the misery, poverty, and vice which they entailed, were due to human institutions, which were founded on injustice, avarice and selfishness. Sell all you have and give it to the poor, was his injunction to the rich, thereby plainly implying that riches and poverty were both abnormal states, relatively to the state that he advocated as the right and just one, viz., that which existed in "the kingdom of God." If Jesus lived to-day, he would, we

may safely affirm, either be a Socialist agitator among the poor in the East End of London, or a fearless and scathing denouncer of the corruptions, gluttony and vice of the dwellers in the West End; and probably both would receive a share of his attention.

The Sanhedrim, the governing body of the Jews, hated him with a holy zeal, and determined on his destruction as a "dangerous disturber of the public peace." The Roman governor, Pilate, looked upon him as a harmless enthusiast, and would have spared his life; but the clamour of the Jewish people for the blood of the man, who had dared among other things to call himself the son of god, was so great that Pilate had to yield to their brutal demands. What, indeed, are we all but the children of the Infinite Power, call it "god," or by any other name we please?

The influence that he exercised over the Jewish people was not very great; and when he was seized and tried, his followers all deserted him. "His few adherents, mostly unarmed peasants, had fled at the instant of his capture; not the slightest tumultuary movement had taken place during his examination before the High Priest, and the popular feeling at present seemed rather incensed against him than inclined to take his part."[1]

There is much that is inexpressibly sad in the life and death of this humble mystical enthusiast. A vast superstructure of dogmas has been built upon his name, all of which is as foreign to his nature as it is to what we know of his teaching. Could humanity

[1] Dean Milman, *History of Christianity*, vol. i. p. 320.

not rest content with recognising the services which he rendered to the world by emphasizing in his labour and death the principle of the brotherhood of man, without proclaiming him to be the Supreme Power of the Universe? In an age when might was right, even more than at present, he might well have been honoured for his fearless advocacy of truth and justice. But to invest him with the character and attributes of divinity is the greatest mockery to be found in the whole history of the human race. Viewing all the circumstances of his life and death, it is inconceivable to us that this poor social reformer, who defended himself against his accusers as best he could, as any other man would have done, and who, in spite of all his endeavours to battle with his enemies and the adverse circumstances in which he found himself placed, had eventually to submit to the greatest indignities, the most brutal treatment, and an ignominious death reserved for the most despised of human kind—it is, we say, incredible that this poor mortal, with all his manifestations of human weaknesses, should have been worshipped for so many centuries as the veritable god or Power of the Universe—a Power so transcendently vast and inscrutable that the mind utterly fails to realize the faintest conception of its stupendous magnitude, or its incomprehensible and unknowable character.

Truly, amid all the complexities of our mysterious life, with the fallible nature of all human endeavour, there is not one event from which great issues have sprung which can compare for one moment, in the infantile character of its error, with the deification for nineteen hundred years of a poor, despised, mur-

dered carpenter's son! In the history of human fallibility and error this is surely unsurpassed. To my sympathies, as I have said, the character of Jesus appeals with singular force; and I shall not, therefore, be suspected of wishing to belittle him. But Jesus the god, nailed to a cross, reviled by the dregs of the populace, spat at, and struck by the common soldiers, dying in all the agony natural to the human body under such circumstances, and supplicating his father in heaven to ease his sufferings, and let the cup of bitterness pass from him, is to me an absolute impossibility!

The astounding and audacious claims put forth and supported by the far-reaching and overshadowing power, which subsequently grew out of that humble beginning, has invested the subject with a paralysing influence; and men shrink from giving voice to their innermost thoughts, under the cowardly, demoralising dread of social disapproval. Probe gently and cautiously the mind of any intelligent man or woman, and it will be found that on this subject of the godhead of the Nazarene carpenter the greatest skepticism prevails; and I venture to affirm that under sympathetic treatment the vast majority will openly avow their utter disbelief of the whole thing. And yet, even amongst many of the free in thought, there is a kind of half-fear of Mrs. Grundy, which leads them to see, or to pretend to see, in the socialistic Jew, a something more than human, a more direct emanation, as it were, from the power which underlies human life, and shapes it towards higher ideals; a more intimate interfusion of his being with the mysterious principle

which works in nature and in the unseen world. Believing, as most do, and justly so, that far away in the future ages a transcendently sublime and beautiful goal awaits the painfully upward course of human life, they would fain justify their intellectual weakness about Jesus, by giving to his labours a greater significance and a more powerful influence in lifting man's soul a little higher up the difficult ascent.

In this sense, whilst denying the divinity claimed for him by his followers, they give a half-willing assent to his being invested with the character of the Christ, and so contra-distinguish him from the rest of mankind. Every one is conscious that in the awful turmoil of this life man is steadily, though very slowly, working out his redemption by the purification of his character through suffering and culture. And surely every man or woman who takes a prominent part in setting before the world higher and better ideals, leading to nobler conduct and purer aspirations, partakes in some measure of the character of the human Christ. Jesus was one of these ; and if the organization which was founded upon his name became the embodiment of all that is execrable in human conduct, he was not in the slightest degree to blame for it. We know that he taught the equality of man, which, in itself, in those days, was no slight service to render to the world ; and which, to-day even, constitutes the noblest and most valuable teaching that men can give to their age. Whatever may have been the character of the man, whether he was a conscious or an unconscious impostor, whether he laid claim to divinity,

or spoke only in the mystical language of a high and fervid religious enthusiasm, matters little to us now; we are concerned, not with the man, but with the gigantic institution that has been built upon his name.

CHAPTER VII.

PRE-CHRISTIAN CIVILIZATION.

Let us now briefly consider what was the state of the civilized part of the world, in regard to learning and progress, at the beginning of the Christian era.

The previous history of the world shows, from such records as we possess, that civilization and intellectual development for many centuries had, upon the whole, steadily advanced, in spite of, and, in some respects, in consequence of, the ambitious and aggressive wars that were waged almost incessantly by a few great conquering powers, which in turn overran the world, culminating eventually in the supremacy of the Romans.

The great problems of speculative thought—God, the soul, the government of the Universe—had occupied the mind of man for centuries in India, Greece, and elsewhere; and the ability displayed in the consideration of these questions indicates a power of abstract thought, which probably is not surpassed by any thinker of the present day. Witness Buddhism, for example, which was founded about three thousand years ago in India by Gotama, who, like Jesus, is supposed by his followers to have had a divine origin.

At the age of twenty-nine he voluntarily abandoned all the advantages of his royal birth and

wealth, and retired from the world to live a life of philosophical meditation and self-denial. From the inward light alone of his own intellect he evolved his theory of nature and life ; and it is remarkable, that after three thousand years of labour in the accumulation of knowledge, both scientific and philosophical, the tendency should be strongly in favour of Gotama's views. Probably the majority of thoughtful men are now in intellectual sympathy with the deep and profound philosophy taught by Gotama, under the pepul trees of India, at a time when Europe was peopled by hordes of barbarians. While, since his day, all other religions which have arisen have declined and perished, or are on their way to extinction, his alone has grown with the growth of human reason, and become more deeply rooted in the mind with every fresh discovery in the realm of natural law.

In every other religion yet given to the world the articles of faith or dogmas have been abandoned one by one as knowledge has advanced ; Buddhism, on the contrary, receives additional support at every step taken in the onward progress. And it is especially in connection with those great intellectual revolutions, which are brought about by the discovery of far-reaching natural laws—such, for example, as Newton's mechanical laws of inorganic construction, and Darwin's discoveries, reducing the world of life to laws of the same mechanical necessity—that the teachings of Gotama become infused with deep and lasting meaning. In him we recognise, to a very great extent, the spirit, form and substance of the monistic philosophy.

Buddhism, as taught by Gotama, is more a system of ethics or philosophy than a religion. Like Jesus, he taught the absolute equality of all men; and to this doctrine is due the astonishing progress and enduring success of both systems. On this point the divergence of practice from theory reaches the utmost limits in Christianity, for whilst it theoretically acknowledges the principle of equality, practically it is the greatest upholder of inequality, and all the social injustices springing therefrom.

Gotama, like Zeno, believed in a supreme power, but not in a supreme being; and, like Aristotle, he denied the immortality of the individual, or the soul, as it is more commonly called. He contemplated the Universe as a vast automatic machine, and all phenomena as resting, in their ultimate analysis, on pure force. This force was to him an eternal, plastic, self-impelling principle or existence, and beyond the grasp of human thought to formulate. From its multitudinous activities, as from an inherent necessity, arise all phenomena known to us; and even if the systems composing the Universe were to be destroyed, the persistent activity of force would renew them. The so-called modern discovery of the persistence of force was familiar to him, though not perhaps under its various correlations. Through his luminous and profound mind passed most of the deepest philosophical thoughts of the present time. He understood the limited character and conditions of human thought and knowledge, as well as the nature of reproduction and decay. In his view, every existence known to us is the result of the operation of mechanical laws,

or, in other words, the persistent activity of universal force—a truth which science has quite recently established. Even intellectual and moral phenomena were all reducible to the same basis as material phenomena, viz. pure force. Force was to him the ultimate possible conception, the last resting-place of the mind in its contemplation of perceivable existence. And is not this still the ultimate point reached, the deepest outcome of science and philosophy?

He was conscious of the immensity of the Universe, and the innumerable worlds it contains; and believed that these worlds were in a constant state of instability—some in process of formation, others of decay. He looked upon life and death, formation and dissolution, whether in the organic or in the inorganic, as completing the circle of Nature; but to this circle there was no beginning and no end, except so far as individual consciousness was concerned. The end of life was extinction of consciousness, perfect rest, Nirvāna; but it is said that he believed this was not always to be attained at the end of the present life. I believe, however, if I may hazard an opinion, that on this point Gotama has not been rightly understood; and that the misconception has arisen through the doctrine, attributed to him, of the transmigration of the soul. Gotama could not have believed in the transmigration of the soul in the vulgar sense, *i.e.* the actual transference of the soul at death to another creature, for the simple reason that he did not believe in the existence of the soul at all apart from the body. The Ego, he says, has no personality, no separate

existence; it is a nonentity. "All sentient beings are homogeneous." The soul is a property of the material organs, and disappears when they are dissolved, as the flame disappears when the candle is blown out. "Buddhism does not acknowledge the existence of a soul as a thing distinct from the parts and powers of man which are dissolved at death, and the Nirvāna of Buddhism is simply extinction."[1] How, then, could it be transferred to another organism?

May we not say, in the light of the doctrine of descent Gotama's meaning becomes clear? *All* life is homogeneous throughout Nature; and the superior intelligence possessed by one animal, say man, over another is due to the superior organism. The principle of vitality in man (as explained in the first part) is homogeneous with the principle of vitality in all other animals; and inasmuch as the molecules of the mind or brain-cells in man may at his dissolution form brain-cells in other animals (not that the atoms composing brain-cells are special in kind), it may be said in this sense that man's soul undergoes transmigration. I do not mean to imply that Gotama arrived at his conclusions from any consideration of the cellular theory, which we may safely conclude was unknown to him. Probably it was from speculative thought concerning the life-principle; for in many of his grand speculations he anticipated modern science to a great extent. Professor T. W. Rhys Davids says, referring to Buddhism: "In its principles it anticipates much that modern science has proved."

[1] *Encyclopædia Britannica*, vol. iv. p. 434.

The reader will see from the foregoing brief sketch of this remarkable man how profoundly he had thought out many of the greatest problems of our life. And if he did not find the solution of any, he at least traced them to their physical causes as far as any man has yet done.

Respecting the time when Gotama lived, there are many accounts, ranging from the sixth to the fourteenth century B.C. If we take a mean of these, as Dr. Draper in his *Intellectual Development of Europe* appears to have done, the principles of Buddhism must have become the intellectual property of millions of people, covering a large surface of the earth, some two or three centuries before the rise of Greek philosophy, beginning with Thales. And though the philosophical speculations of Gotama could not be understood by the majority of his followers, there would yet be a sufficient number in all the countries professing Buddhism, by whom his principles would be appreciated, to mark a very high level of general intellectual attainment and development. When Greek philosophy therefore first appeared, the world was already in possession of some of the principal ideas contained in the early speculations of those philosophers. Whether or not they were indebted to the East we cannot say, but it has been suggested that art, religion and civilization may have been carried from the east through Asia Minor to the Ægea, and thence to Greece.

We know that the early Greek thinkers were greatly indebted to Egypt, which for centuries, and indeed we may say for several thousand years before the intellectual Greeks were heard of, had attained

to a very high state of culture and civilization. Egypt is now the historical storehouse of the ancient world, in which are preserved the oldest relics of man's history; and every fresh discovery impresses us more and more with the conviction that in Egypt everything that indicates and characterizes human progress was very far advanced. In the art of building, the Egyptians have never been surpassed, if, indeed they have ever been equalled. Some of the grandest and most perfectly constructed buildings in the world are in Egypt. The pyramids, palaces and temples are the wonder and admiration of all men; and apparently they are likely to remain so. The social system was as complex and developed in its way as the social system of Europe is at the present time. The arts and refinements of social life were cultivated to a high degree of perfection; and they must also have been acquainted with a wide range of scientific principles, as attested by their great engineering and other works. In intellectual endowments, as well as in material prosperity, they had reached a high pitch. In one point alone they were in a state of barbarism, as were all the peoples of the ancient world, no matter how far advanced in all other respects—the altruistic faculty, the moral conscience had not been born, and man had no regard for the happiness and well-being of his fellowman.

"In ancient days Egypt had its gardens, orchards, and vineyards; vegetable productions in great variety gave easy sustenance to the people; and the growth of corn was so vastly in excess of what the natives required for their own food, that the valley of the

Nile was regarded as one of the granaries of the world."

Herodotus tells us that the Labyrinth, which was built by twelve Egyptian kings as a monument to commemorate the greatness of their reign, exceeded even the Pyramids, and cost more in labour and expense than all the great works of the Greeks put together. In this stupendous structure "the art exhibited in its design and execution are beyond description." In Egypt, wherever we turn, we have evidence of the high state of its ancient civilization. Buildings of such colossal proportions and grandeur of design could never have originated among a people who had not reached a very high level indeed. "Man grows as greater grows his aims."

Speaking of the Catacombs at Thebes, Mr. Edmund Ollier says :—

"All is massive, superb and regal. . . . Pillars, corridors, halls, staircases, sculptures, frescoes, give splendour and dignity to this sepulchral realm. They who would reproduce the vanished life of Egypt must study it beneath the wings of death. . . . Many of the refinements of civilized life were known to these children of a bygone age. Embossed leather, stained with various colours, has been found there (in the tombs). The mummies are wrapped in linen cerements. Gilding and varnishing were employed with excellent taste and skill. Glass was used both for articles of utility and for personal adornment. Copper was cast in various forms, and sometimes rolled into sheets. The dresses of the richer classes were ornate and splendid, the head was frequently covered with a wig, and a great deal of finely-wrought jewellery was worn. The art manufactures of these people were often in admirable taste; in many respects they seem to have anticipated the luxurious inventions of modern times. The practice of medicine was divided into as many branches as there were maladies. Eggs were hatched by artificial means. The mechanical appliances by which enormous masses of stone were transported

from distant quarries must have been elaborate and powerful; the execution of so many works at once massive and delicate argues the possession of a great variety of tools."

Again, in regard to the buildings:—

"Thebes might have been a city of the giants, so enormous was the area covered, so vast were the buildings, so Titanic the sculpture, the gateways, the towers, the columns and the approaches. Even in its desolation the part now called Karnak is astonishing in its grandeur and its colossal dimensions. An irregular avenue of sphinxes extending 2,180 yards connects the southern termination of the locality with the northern entrance to the temple of Luxor; and at every point are the remains of numerous edifices of the most extraordinary splendour and majesty."

Homer, in the *Iliad*, describes Thebes as the hundred-gated city. Thebes was at one time the capital of Egypt, and, according to Herodotus and Aristotle, gave its name to the whole of the country.

We boast, and not without reason, of our Suez Canal; but, as an engineering work, it was probably surpassed by that cut by Rameses II., from the Nile to the Red Sea, and which "cost 120,000 lives, and countless treasures of money." This grand canal was allowed to become filled up with sand, and was several times at different periods cleaned out.

While the Egyptians took the lead in Mediterranean civilization, other peoples were scarcely, if at all behind them. The Assyrians were a highly civilized people, and many of their great buildings could vie with those at Thebes even; while in the arts and sciences, they are known to have made no inconsiderable progress; in music, sculpture, ivory-carving, metallurgy, modelling, mythology, lexicography, grammar, mathematics, astronomy, astrology, history, natural history, legends, geography, topo-

graphy and law they were well versed; and even in the matter of currency they are said to have used bank notes. Callisthenes, the Greek, found in Babylon a series of Chaldean astronomical observations, covering a period of 1903 years, which he sent to Aristotle. This carries us back over 4,000 years from the present time; so that we know that at that distant date astronomy had not only been studied for a considerable time, but must also have made very great progress; for much preparation is required before accurate observations can be taken and recorded. Certain facts connected with the construction of the great Egyptian Pyramid prove that the Egyptians possessed, even 5,000 years ago, accurate and finely-constructed astronomical and other instruments. The Egyptian astronomer, Ptolemy, had in his possession a Babylonian record of eclipses, extending back 747 years before the Christian era. The Babylonians knew the length of a tropical year to within twenty-five seconds of the truth; and their calculation of the sidereal year was barely two minutes in excess of the exact time. They had correct views of the solar system, and "knew the order of emplacement of the planets." In fact, their knowledge of astronomy was both extensive and accurate. The Persians were also a great and highly-civilized nation centuries before our era; so also, as is well known, were the Chinese.

Such was the advanced condition of the ancient world about 600 B.C., at the time when we first hear of Greek philosophy. Just about this time an event occurred which was of the very greatest importance to the spread of knowledge, and occasioned, as Dr.

Draper says, the first grand impulse in the intellectual life of Europe.

Psammetichus, on the death of his father, who was one of the kings of Egypt, fled into Syria, and returning to Egypt with foreign aid, established himself as one of the twelve kings. Having been informed by an oracle that he who should make a libation of brass would rule over the whole of Egypt, he fulfilled the condition by pouring that metal, in a molten state, out of a brazen helmet. By the aid of Greek mercenaries he obtained supreme power; and by the necessities of his situation he overthrew the time-honoured policy of all the old dynasties. Down to this time Egypt had been practically a closed nation to the world; but with a large infusion of foreign elements, especially Greek, it was no longer possible to maintain the old policy of seclusion, and the Egyptian ports were thrown open to the world, making the country accessible for commercial and other purposes. Psammetichus encouraged the Greeks to settle in Egypt by bestowing land upon them, and by fostering the study of the Greek language. He contracted alliances with the Athenians, and it may justly be said that through him, chiefly, the world was enriched with Egyptian civilization.

"Under the shadow of the Pyramids," Dr. Draper says, though I think erroneously, "Greek philosophy was born." But with greater truth it may be said, under the shadow of the Pyramids the germ of European civilization first started into life. The spread of commerce carries with it other advantages besides those of material gain; and the Greeks and

Italians were not slow to avail themselves of the hitherto inaccessible results of Egyptian civilization. With the opening of the Egyptian ports an active commerce at once sprang up between Greece and Egypt, and the open-minded observant Greek was not long before he had established a link between the ancient world and his own. In the magnificent buildings of Egypt are to be found the prototypes of the Greek architectural orders, which, under various combinations, now cover Europe and America. Much of Greek ornamentation and design can be traced to the same source, as can also the models of the Greek and Etruscan vases. In the matter of their religion, the Greeks borrowed largely from the Egyptians. The noble and enduring edifices erected to the gods, the majestic granite statues, the solemn sphinxes, the stupendous and beautiful temples, the gorgeous ceremonials made a deep and lasting impression upon the Greek mind in the early days of its development. Not only, however, in Greece was Egyptian influence felt, the towns of Italy participated in the light that was reflected across the Mediterranean, and contemporaneous with the rise of philosophy and the arts in Greece, the study of philosophy arose in Italy. And thus in Greece and Italy the progress of the world was continued and handed down to future generations.

The Greek mind, eminently receptive and reflective, was greatly influenced for the next two centuries by Egyptian civilization. On the shores of the beautiful Mediterranean the Greek meditated in wonder and astonishment on the marvellous

things he had seen on the banks of the Nile; and his keen perception of beauty, strength, and majesty of form, for which the Grecian statues are unrivalled, received no little inspiration from his contemplation of Egyptian architecture and sculpture. The sight of "the most stupendous works ever accomplished by the hand of man" raised and enlarged the minds of the Greeks; and the hoary antiquity of the nation, which seemed to go back to the very morning of the world, whilst it filled them with emulous admiration, it extended at the same time their intellectual horizon. Thus for a period of over two hundred years preceding the Macedonian conquests, the Greeks had been brought into contact with the advanced civilizations of Egypt, Mesopotamia, and Persia; and when Alexander appeared upon the scene they had pretty well mastered and assimilated the greater part of what those peoples had to teach.

It is scarcely an exaggeration to say that with the close of Alexander's conquests Greece was practically in possession of most of the valuable knowledge of the world, and no peoples who have ever lived were better qualified to extend and hand down that knowledge to future generations. It is a fortunate circumstance for the world that Alexander had for his tutor that great epoch-making man, Aristotle. He never forgot the lessons of his youth; and in all his schemes of conquest his old master's influence for the acquisition and extension of human knowledge was ever actively at work with him. His unbridled passions, atrocious wholesale massacres, and foul murders of his friends, have earned for

him, from those who have not been blinded by the brilliancy of his achievements, the title of an inhuman monster. But he was essentially a *human* monster—the *natural* product of all uncontrolled, irresponsible authority in man, in all ages.

With Aristotle the Greek intellect enters upon a new phase of development. The long and illustrious line of thinkers had exhausted merely speculative thought, and investigation of objective existence became a necessity of further advance. Patient investigation of natural law was entered upon by men equipped with the most highly polished and fashioned intellectual instruments the world has ever known; and the result was, that in an incredibly short space of time the peoples round the shores of the Mediterranean were as famous for their scientific as for their philosophical knowledge. Greek intellect was radiating light in all directions, and knowledge was spreading with marvellous rapidity wherever Greek influence extended. Much of this was due to Alexander, who, in his expeditions, was invariably accompanied by a whole host of learned men, by whom every item of knowledge that they came into contact with was carefully recorded. He furnished Aristotle with a large sum of money, and placed at his disposal a well equipped party of searchers for specimens required in the preparation of his great work, the *History of Animals*. "The times were marked by the ushering in of a new philosophy. Greece had gone through her age of Credulity, her age of Enquiry, her age of Faith; she had entered on her age of Reason, and, had freedom of action been permitted to her, she would

have given a decisive tone to the forthcoming civilization of Europe."[1]

The campaigns of Alexander had brought the Greeks into contact with the grandest and most beautiful scenery in the world; and the staff of specialists had appropriated most of what was of value in Epyptian and Oriental philosophy and religion. Humboldt has observed that "an introduction to new and grand objects of Nature enlarges the human mind." The unparalleled development of both the Greek and the Roman mind, during their wars of conquest, bears testimony to the truth of this remark.

Of all Alexander's conquests, that of Egypt was by far the most important to the future of the world; for it was in the city of Alexandria, which he founded, that the great Museum was established, which may be truly called the Mother of European Science. It was in this magnificent and unrivalled institution that accurate scientific study was first begun in that regular and orderly method of induction laid down by Aristotle; and which is the foundation of the scientific knowledge of our own times.

This grand institution was established by Ptolemy Soter, half brother to Alexander, and one of his generals, who became King of Egypt after the death of the Conqueror. He established his seat of government at Alexandria, and made it, not merely the capital of Egypt, but the most important and the wealthiest city in the whole world. It was the

[1] Dr. Draper, *Intellectual Development of Europe*, vol. i. p. 174.

entrepôt of the East and the West for commerce as well as for learning. Ptolemy was a man of large and liberal views, with a great love and respect for knowledge of every kind; and he conceived the magnificent idea of founding and endowing a state institution on so grand a scale, that within its spacious walls could be collected the whole body of knowledge then known to the world. His object was to collect, increase, and diffuse knowledge, and for this purpose he invited men from all parts who were most eminent in the various branches of philosophy, science, and art. In addition to the large number of Jews imported by Alexander, Ptolemy, after his siege of Jerusalem, took 100,000 men to Alexandria; and Philadelphus, his son, who succeeded his father, redeemed from slavery two hundred thousand of that people, paying their Egyptian masters a just equivalent in money for their release.

Greeks and Egyptians flocked to Alexandria, and, as might be expected, men of superior attainments were attracted by the advantages it offered for study and the acquisition of every kind of knowledge. It is impossible at this distant date to do justice to the great and enlightened man who planned, and, with the aid of his son, carried out this grand idea, or to estimate a tithe of the influence it has had upon the progress of Europe. In the museum there was no distinction of nationality or creed. Greeks, Egyptians, Jews, all fared alike, and learning, in whomsoever found, was a sure passport to honour and distinction. In this emporium of enlightenment the empty, petty, childish distinc-

tions of birth and titles were unknown ; they were relegated to an inferior order of men ; and if the natural growth and diffusion of the glorious heritage, bequeathed to the world by the Alexandrian Museum, had not been violently arrested, and in part destroyed, those gilded toys of a degenerate age would long since have ceased to occupy men's ambitious desires. Such baubles can have no real value in the estimation of cultivated minds. The king himself was accustomed to mix and converse freely with the professors and students, and frequently joined them at the dinner table, in social and friendly intercourse, without any of those assumptions of unapproachable superiority on the one side, and degrading adoration and subservience on the other, which distinguish our modern entertainments and social gatherings. All these nice gradations and distinction of birth, title, and wealth, so dear to the heart of the modern Philistine, the Alexandrians cast aside as unworthy the consideration of those who had attained to the stature of men, and, in the exercise of their just and sober reason, had learnt to appraise all human life at its proper value.

Greek engineering and architecture had made Alexandria a city second to none in the world for beauty. It was filled with magnificent palaces, temples, theatres, baths, obelisks, fountains, and gardens ; and in the heart of the town, where two great avenues, 200 feet wide, intersected each other, a beautiful mausoleum was erected for the reception of the gold coffin containing the embalmed remains of Alexander, which had been brought from Babylon,

a journey taking two years to accomplish. The Museum was built of marble ; and we gather some idea of the extent of this extraordinary structure from the fact that at one time there were no fewer than fourteen thousand students, besides professors, attendants, servants, and others, within its enormous enclosure. It was surrounded with a spacious piazza, in which the inhabitants, without distinction, could meet and converse together at their leisure. For the collection of books a regular staff of travellers was kept, who went out in all directions in search of works on every conceivable subject ; and the librarian had permission to purchase, without limit, at the expense of the State, all books and manuscripts containing any useful or curious information. If the owner of any book or manuscript was unwilling to sell it, he was required to lend it to the Museum, where a large staff of transcribers was employed, and after it had been carefully transcribed the copy was deposited in the library, and the original returned to the owner, with a money payment for the use of it. In cases where the books were bought, copies were made and sent to the owners, so that they still retained possession of the information contained in their books. In such a wise and just proceeding we see the solicitude of the Alexandrians for the spread of knowledge. Whilst the library was the means of preserving whatever was of value, no man was the poorer in intellect or in money for his contributions.

There were eventually two distinct libraries in the museum, containing altogether seven hundred thousand volumes, holding the totality of human

thought at that time. The apartments of the library were crowded with the choicest pictures, statues, and other works of art; whilst decorative ornamentation and design were superbly beautiful. Attached to the museum were botanical gardens for the practical study of plants; also a menagerie for those who were interested in the study of zoology. A school of anatomy provided instruction in this most important subject; and dissection was practised, not only on animals, but also on the human body. The anatomical section was connected with the medical college for the education of physicians; the practical study of anatomy being a part of the necessary course of instruction. The school of anatomy is perhaps a truer index than anything else of the greatness of the Alexandrians. It shows that they had surmounted the superstition and ignorance which, descending almost to our own times, has retarded the cultivation of a branch of knowledge on which, more than on any other subject, human comfort and happiness depends. It would be difficult to name a science more useful and valuable than that which supplies us with the means of alleviating suffering.

In the astronomical observatory astronomers were engaged in the study and observation of the heavens; they used many instruments of the same kind as those now in use. "On the floor a meridian line was drawn for the adjustment of the instruments." In a similar manner we lay down on the floors of our public buildings, for preservation and reference, our units of measurement. They used an equinoctial and a solstitial armil, the graduated limbs

being divided into degrees and sixths, stone quadrants, astrolabes, dioptras, etc.

In this noble institution were gathered together men engaged in the study of every branch of knowledge, literary, scientific, philosophic, and artistic; and in spite of the deadly opposition to all learning which obtained supreme power in subsequent ages, their influence has, to a great extent, shaped the modern world. "There went forth from them," as Dr. Draper says, "a spirit powerful enough to tincture all future times." Nothing to equal the Alexandrian Museum has ever been called into existence in the history of the whole world. There is not a single university in Europe which can be compared with it in magnitude of construction and comprehensiveness of design; and with regard to freedom of intellectual enquiry, where is the man of liberal and enlightened views who would not be heartily ashamed of a truthful comparison of his Oxford or Cambridge with the Alexandrian Museum? One of the greatest poets this country has ever produced was expelled from Oxford in the early part of the present century, at the age of eighteen, *for writing a pamphlet on free-thought!* Such an act of bigotry would have been laughed to scorn by the enlightened Alexandrians; and, so far from occupying high professorial positions, its perpetrators would have been deemed unworthy to teach the merest rudiments of knowledge.

Between the scientific men of Alexandria and the scientific men of the present time there is indeed a close parallel, though twenty centuries lie between them. To think that over 2,000 years ago the in-

telligent few were engaged in combating powerful militant superstitions, exactly similar in character to those against which the intelligent few to-day are bravely struggling, is surely almost enough to make one doubt that the truth will ultimately triumph. In those days the mass of the people was under the influence of religious dogmas; and every scientific thought or discovery ran counter to long and deeply cherished religious beliefs. All thoughtful men had outgrown the national creeds, and between religion and science the eternal feud was waged, with patient perseverance on the one side, and bitter persecution on the other. In Alexandria the cruel spirit of persecution was tempered and held in check by the enlightened minds which were in authority; and other circumstances combined to moderate the zeal of religious fanaticism; but in Greece, and elsewhere, some of the foremost men suffered death and persecution for their learning.

In all but the power to inflict punishment the religious bodies to-day occupy a similar position towards scientific and other thoughtful men to that which their prototypes, twenty centuries ago, occupied towards the enlightened of that time. There is, however, this significant difference, that whereas the humblest classes of ancient times were of all grades the most completely under the influence of their national religions, the working classes of our time are among the most emancipated from the domination of the churches; and the power of the future is undoubtedly with our working population. That the poorer classes should, together with the intellectual and the majority of the upper grades of

society, have simultaneously outgrown their faith, is one of the most remarkable facts of the close of the nineteenth century. Religion is now chiefly confined to the great, powerful middle classes—the commercial of all grades—among whom are to be found the rankest products of nineteenth century civilization. And even among them it is slowly but surely losing its hold.

About the period of which I am writing—the third century B.C.—great things had been achieved. Some of the greatest monuments of human genius had been given to the world. The most certain, the most perfect, the most enduring, the most valuable of all the written thoughts that have ever proceeded from the brain of man is, I venture to think, the work known as Euclid. Everybody knows something about Euclid, and the important part it plays in scientific research. As the representative of absolute truth, and for practical construction, it stands alone at the head of all the works of man. As true to-day as when it was first written, it has outlived, and must continue to outlive every phase of thought, every change of system, whether philosophical, scientific, social, or religious; and it is quite unthinkable, and even inconceivable, that a time will ever arrive when a single proposition of Euclid will be found to be *untrue*. Relatively to thought the truths of Euclid are unchangeable, absolute and final. Supposing the whole of the propositions (or even the greater part) to have come from Euclid, is there any other product of a single mind of which the same can be said? Euclid taught in Alexandria, besides geometry, various

other subjects, and wrote on Fallacies, Conic Sections, Division, Porisms, etc., but owing to the vigilance exercised by the Christian Church, over writings "prying into the secrets of God," and other causes, they have all perished, except his geometry, and part of that even shared the same fate. It is to the enlightened Arabs that we owe the preservation of Euclid; they translated and preserved the immortal work when every vestige of it had disappeared wherever Christian influence prevailed. If we may judge of the value of the lost works of Euclid by his geometry, it is almost impossible to estimate the magnitude of the mischief wrought by the ignorant bigots who destroyed them.

The influence Aristotle has had upon the world is enormous. He was the greatest of all the pioneers of early science, and his works have been the source of no inconsiderable portion of our knowledge; and yet only about one-fourth of his writings have been preserved. In like manner we owe chiefly to ecclesiastical authority the destruction of three-fourths of the works of that great man. The Alexandrian Institute was the Alma Mater of Aristotle's writings; and considering the great number of copies that must have been made both of his and of Euclid's works—for they were in use all over Greece and Italy, and subsequently in other parts—the zeal of the Church must have been very great indeed; especially as here and there would be found a student to whom such priceless works would be very dear, and who would naturally try to hide them from the eyes of the Church, and study them in secret. In later ages some of the Fathers of the

Church interpreted Aristotle in accordance with their religious dogmas, and claimed him as a supporter of some of their views.

The name of Archimedes is as well known as that of Euclid. He was born B.C. 287, and his connection with Alexandria is testified by the discovery of the screw, which bears his name, for the purpose of raising water from the Nile. Everybody has heard of the Archimedean screw, and the many purposes for which it has been used; but this great man was the author of many other discoveries and mechanical contrivances scarcely less valuable than the famous screw, which are not so well known to the majority. It was he who invented a method for the determination of specific gravity, by the thought occurring to him as he stepped into his bath, that the cubic contents of any irregular body could be ascertained by immersing it in water. The anecdote of King Hiero suspecting that he had been robbed by the artisan to whom he had given a certain weight of gold to be worked into a crown, is familiar to us, as the incident which directed his mind to the train of thought resulting in the valuable discovery. From this discovery many others of minor importance, though still very valuable, were made, especially those connected with the equilibrium of floating bodies. He is generally credited with having discovered the theory of the lever—a discovery second, perhaps, to none in the whole field of mechanics. The saying, attributed to him, "Give me a fulcrum on which to rest, and I will move the earth," indicates the popularity of his mechanical genius. He laid the foundation of

Hydrostatics and Hydraulics, and established the science of engineering upon a solid mathematical basis. At the siege of Syracuse, his native town, by the Roman general Marcellus, he is said to have invented a machine with which the enemy's ships could be seized, as they lay near the wall of the city, lifted high into the air, and suddenly dropped into the water, to the destruction of both ship and crew. He is also credited with having constructed burning mirrors which set the Roman fleet on fire, within a short distance of the besieged town. The intellect of this one man was more than a match for the brute force of the Romans. His inventive genius devised engines of war which frightened them, and protracted the siege for three years. His discovery of the relation between the volumes of a sphere and its circumscribing cylinder, he himself considered his greatest achievement. And in fulfilment of his desire his tomb was marked with the figure of a sphere inscribed in a cylinder. It was this circumstance that enabled Cicero when quæstor in Sicily (B.C. 75) to discover the tomb of Archimedes which he found overgrown with thorns and briers. The following treatises from his fertile brain have come down to us:—*On the Sphere and Cylinder, The Measure of the Circle, Conoids and Spheroids, On Spirals, Equiponderants and Centres of Gravity, The Quadrature of the Parabola, On Bodies Floating in Liquids, The Psammites, A Collection of Lemmas.* About a dozen of his works are known to have been lost, and probably there were others that shared the same fate. The world is fortunate in the preservation of so many of the writings of this illustrious

man, which, no doubt, is owing in great measure to the fact that the Church saw in them no contradiction of any of her dogmas, or danger to her teachings. A modern mathematician has said of him that he came as near to the discovery of the Differential Calculus, as was possible without the aid of algebra. At the end of the siege of Syracuse, a Roman soldier ran his spear through him, as he was engaged in tracing some mathematical figures on the sand; and so perished one of the most glorious intellects of ancient or modern times.

I cannot pretend to give more than a bare outline of some of the principal labours of a few of the illustrious men who flourished at Alexandria; but I hope it will be sufficient to show the high level to which our race had attained, and serve to mark the contrast of the decline which accompanied the rise of Christianity. Let different writers account for it as they may, there is no disputing the historical fact that, as the Christian religion rose to power the learning of the world declined; and from a most enlightened and civilized condition man relapsed into ignorance and semi-barbarism; and the darkest and most hopeless period of this backward movement was shortly after Christianity had reached its zenith of power. It is also a matter of history, which admits of no disproof, that not until the civil power had severed itself from religious domination did learning begin to revive; and in proportion as the power of the Church decreased, civilization prospered. The historical sequences proving the logical connection of these movements are matters of history, which none, I presume, will gainsay. As we

proceed we shall have an opportunity of comparing the audacious ignorance and presumption of the fathers and heads of the church, who controlled the power of the world during the dark ages, with the wisdom of those whose works they destroyed wherever they could lay their hands on them, and whom they frequently tortured and burnt alive.

The principal stars of the zodiac were determined by Aristillus and Timocharis, who lived at Alexandria about 300 B.C. Following these, though not in time, Hipparchus made the important discovery of the procession of the equinoxes. Aristarchus wrote a treatise *On the Magnitudes and Distances of the Sun and Moon.* In this treatise he explains an ingenious method for ascertaining the relative distances of two bodies. He also calculated the magnitude of the sun's diameter, within a little of the truth. This involved very difficult observations.

The fame of Eratosthenes, who was appointed keeper of the royal library, has descended to us. By means of armillary spheres, which he invented, he observed the distance between the tropics to be to the whole circumference of a great circle as 11 to 83. He was the first to attempt, on correct principles, to determine the size of the earth. In addition to astronomy, Eratosthenes made great contributions to mathematics, geography, and history. The geological submersion of lands ; the elevation of sea-beds ; the articulation and expansion of continents ; the formation and position of mountain ranges ; the relations of the Euxine Sea, and many other subjects, too numerous for detailed account here, occupied his attention. He discovered that

terrestrial gravity is not constant; composed a work descriptive of the earth—physical, mathematical, historical—illustrating it with maps of all the parts then known. He solved the problem of two mean proportions. Scholars to-day appreciate the fragments of his chronicles of the Theban Kings, which have come down to us. Eratosthenes was also a writer of poetry, and composed a poem on the terrestrial zones. His views of the way history ought to be written have only quite recently been appreciated; and even now the majority of historians think that the principal subjects of history consist of the lives of kings, their wives, statesmen, and soldiers, and suchlike trivialities. At the age of eighty, the burden of life becoming wearisome and oppressive, he calmly sought his rest by quitting it.

No educated person, at the time of which we are speaking, entertained any doubt about the globular form of the earth; and the arguments then used in proof of the fact are still resorted to by us. The nature of eclipses was well known, and their recurrence could be calculated. They were familiar with the motions of the earth, its poles, axes, the equator, equinoctial points, arctic and antarctic circles, colures, horizon, solstices, the phenomena of the moon's phases, and many other facts of similar character far too numerous for us to specify. Respecting the climatic distribution of heat and cold, they had very clear ideas; their principles were correct, though the degrees of heat in the torrid zone, and those of cold in the frigid, were exaggerated. This was due, not to want of knowledge, but to the imperfection of the instruments, in the construction

of which we of the nineteenth century have attained to such marvellous proficiency.

The successors of the great men we have mentioned worthily carried on the scientific movement; and the sciences continued to be studied and enlarged. In the mathematical and physical department, Apollonius Pergæus, some forty years after the time of Archimedes, even excelled most of those who had gone before him. His greatest and most valuable work was on Conic Sections, in which the first mention of ellipse and hyperbola appears. Competent judges consider his fifth book on Maxima and Minima to be one of the highest efforts of Greek geometry. He invented a clock among other ingenious things.

Following Apollonius, about 160–125 B.C., we meet with another great name—Hipparchus, mentioned above. Besides his astronomical discoveries, he is famed for the methods he gave for solving all triangles, plane and spherical, and the table of chords which he constructed. His discoveries in many subjects were numerous and valuable. Even Newton availed himself of the aid of Hipparchus's theory of epicycles and eccentrics in his *Principia.*

Next come the astronomers Geminus, Cleomedes, and the great Ptolemy, the author of the celebrated work *Syntaxis*, or the mathematical construction of the heavens. Space will not permit, nor does it accord with the purpose of this undertaking, to go into the numerous discoveries and labours of Ptolemy. His name, in connection with astronomy, is as well known as that of any modern astronomer;

and his work on geography was used in European schools down to the fifteenth century. His commanding genius was the outcome of all that had preceded him in those departments of knowledge with which his name is connected. As an astronomer he was unrivalled in the history of the world, until the appearance of the illustrious Copernicus at the beginning of the sixteenth century. Many great astronomers succeeded him at Alexandria and elsewhere, until intellectual darkness set in; but not one could be compared with him for mightiness of genius, or multitudinous achievements. Astronomy, however, still continued for some time longer to be studied; and its boundaries were steadily enlarged by the patient labours of men, who, though they had not the genius of Ptolemy, were still in possession of the learning of their age. For over sixteen hundred years no man arose to dispute the supremacy of Ptolemy; and after the annexation of Alexandria by the Romans, scarcely an astronomer is worth mentioning until we get to modern times.

Let us pause for a moment at this great and important epoch of the world's history. We have arrived at the Christian era. We have not yet mentioned the condition of the Roman world at this time, which was far advanced in material and intellectual progress. We shall come to that presently. The establishment of Alexandria, as we have seen, had been the means of forming a centre of learning, in which all the knowledge of the world had been collected together, and from which scholars and professors went forth in all directions, many finding

their way to Rome and other great cities, where their influence was felt in the spread of the knowledge that they had acquired in Alexandria. From the descriptions of Alexandria, which is said to have been the most beautiful city in the world—and there were many noble, beautiful cities at that time—we may fairly conclude that there is scarcely to be found its equal in Europe in modern times. The two chief avenues which intersected each other were each, as we have said, 200 feet wide: one was three, the other one mile long. Is there a city in Europe, to-day, with such noble roadways? These avenues were adorned with the most beautiful and majestic palaces and other buildings. After the taking of the city by the Arabians in 640, following a siege lasting fourteen months, the general wrote to his master the Caliph Omar, that he had taken a city containing "4,000 palaces, 4,000 baths, 12,000 dealers in fresh oil, 12,000 gardeners, and 400 theatres or places of amusement." Ptolemy Soter began the erection of the famous lighthouse, Pharos, near the city, which was finished by his son Philadelphus. It cost 800 talents, equal to £248,000, an enormous sum in those days. This grand structure was 400 feet high, and a magnificent monument of engineering skill. Elegances and refinements equal to those of modern times were enjoyed, not only by the Alexandrians, but also by the inhabitants of numerous other cities in those days. The towns of Greece were scarcely, if at all, behind Alexandria in point of architectural beauty and grandeur of design; and they were the homes of civilization and learning of a very high order—especially Athens, as all the

world knows. In their systems of government they had overcome some of the difficulties that confront Europe and America to-day. Lycurgus is said to have solved the problem of capital and labour by abolishing poverty in Sparta. Under the system which he devised, and the laws he made for carrying it out, it was impossible to accumulate riches ; and for the same reason poverty became an impossibility. There were no poor *because there were no rich people* in Sparta—a great truth which Europe has yet to learn, but towards which she is blindly groping her way.

From all these facts we gather a picture of the civilized parts of the world at the beginning of the Christian era, which forces upon us the conclusion that we have scarcely yet reached the height to which they attained. At all events, I do not think that many thoughtful persons will maintain that the evidence which we possess of the conditions of those times would justify us in priding ourselves upon any great superiority. To what, then, are we to attribute the decay of all this learning, civilization, and general progress, and the centuries of stagnation which followed? Dr. Draper strikes the true key, though apparently he had not the courage to be more explicit, when he says :—

"The talents which might have been devoted to the service of science were in part allured to another pursuit, and in part repressed. . . . In the very institutions by which she had once been glorified, success could only be attained by a conformity to the manner of thinking fashionable in the imperial metropolis, and the best that could be done was to seek distinction in the path so marked out. Yet even with all this restraint Alexandria

asserted her intellectual power, leaving an indelible impress on the new theology of her conquerors. During three centuries the intellectual atmosphere of the Roman Empire had been changing. Men were unable to resist the steadily increasing pressure. Tranquillity could only by secured by passiveness. Things had come to such a state, that the thinking of men was to be done for them by others; or, if they thought at all, it must be in accordance with a prescribed formula or rule. Greek intellect was passing into decrepitude, and the moral condition of the European world was in antagonism to scientific progress."[1]

Dr. Draper plainly refers, in this passage, to the power exercised by the Christian Church. The "decrepitude" of the Greek intellect was due, not to any natural decay, but to its suppression by force chiefly, and in part to the allurements offered to men of intellect by the Church. The Church became the only avenue to emoluments, power, and distinction; and in time she was able to effect her purpose most completely by obtaining control of the education of the young, for which she has, in all ages, fought tooth and nail; and it must be admitted that she has succeeded in retaining this most effective of all her weapons against progress and enlightenment, even down to the present day. She has never lost sight of this irresistible power, or, in all her long history, failed for one moment to estimate to the full its influence. Witness her daily contests with the secular tendencies of the age in all matters where the education of the young is concerned; and her frantic appeals to the ignorant and bigoted of all classes to rescue the children from the "godless" teaching of the Board Schools. The Church is now, as she has always been, the bitter and uncom-

[1] *Intellectual Development of Europe*, vol. i. p. 205.

promising enemy of education. She knows well what it means to her; and with the instinct of self-preservation she has consistently opposed the spread of knowledge. In nearly all other educational establishments the clergyman reigns supreme. Let the Church have the forming of the tender and impressionable minds of the young, and she can afford to laugh for many years to come at educational and other Acts of Parliament.

If the Greek intellect had been permitted, it would have controlled the civilization of Europe, and I believe there would have been no dark Middle Ages. All the glorious results arrived at by Ptolemy, and the great men who preceded and followed him, would have been handed down in an ever-increasing volume to all succeeding generations; and our Copernicuses, Galileos, Keplers and Newtons would, in all probability, have appeared in the early part of this era, instead of during the last four centuries. And may we not reasonably say that had it not been for the victory obtained by the Crescent over the Cross in Egypt in the seventh century, when what was remaining in Alexandria fortunately fell into the hands of the Arabs, that there would probably have been no Copernicus, Galileo, Kepler or Newton for some centuries yet to come? It was the Arabians who preserved the works of the philosophers and scientists, which they found in the conquered city, and it is to their enlightenment we owe it that they have come down to us. The tale told of Caliph Omar ordering his general Amrou to destroy the great library is an invention of the Christians to saddle their opponents with their own bad conduct. Long

before this period it had been destroyed by the Christians themselves.

"When Theodosius the Great consented to allow the Christians to destroy all the heathen temples in the Roman empire, the magnificent temple of Jupiter Serapis, which contained the library, was not spared. A mob of fanatic Christians, led on by the Archbishop Theophilus, stormed and destroyed the temple, together, it is most likely, with the greater part of its literary treasures, in 391 A.D. . . . The historian Orosius, who visited the place after the destruction of the temple by the Christians, relates that he then saw only the empty shelves of the library." [1]

Let us turn now to imperial Rome. The future lies with her, and we are still under the power of the legacy—fatal in many ways—that she bequeathed to us.

[1] *Chambers' Encyclopædia*, article "Alexandrian Library."

CHAPTER VIII.

DECADENCE OF ROME.

Following the conquests of Alexander, and while the Alexandrians were peacefully extending the empire of knowledge, the Roman Republic was steadily pursuing that policy of conquest and annexation which eventually left Rome mistress of the world. Sagacious, active, unscrupulous and heartless, the Roman character exemplified the selfish instincts of man in all their naked hideousness. The beginning and end of all Roman policy, whether under the republic or the empire, were conquest and material aggrandisement, regardless altogether of the rights and sufferings of the people whose territories they invaded, plundered and annexed. They were not hampered in their dealings by any scruples of conscience or pity. It is well to bear this in mind; it is the key to the policy and conduct of the powerful spiritual organization, which, growing at first under the fostering care of the empire, eventually seized the reins of authority, and exercised supreme control. Born and reared in blood, the offspring of fraud, and the foster-child of injustice, it was destined to wade through blood and agony, to maturity and old age; and, like its foster-mother, only relaxed its paralyzing grip upon suffering humanity when the power for mischief had fallen from its palsied hand.

Rome early turned her covetous eyes towards Greece, and under pretext of assisting the Athenians against a threatened Macedonian enemy, obtained a footing in the classic land. Just previously to this she had conquered Carthage, compelling the Carthagenians to pay a fine of two millions of pounds. The war with Antiochus, king of Syria, resulted in that monarch having to cede to Rome the whole of his possessions in Europe, and those of Asia north of Mount Taurus, together with a money payment of three millions of pounds. The Greeks fought bravely against the encroachments of the Romans, but they were no match for the legions which now poured in upon them; and it ended in the annexation of Epirus and Illyricum. Subsequently, on the occasion of a revolt against the tyranny of the Romans, Corinth, Thebes, and Chalcis were sacked and burnt, and all the art treasures carried off to Rome. Spain next fell into the hands of the rapacious republic, and was annexed as a province; the greater part of Asia Minor followed, and Rome became absolutely glutted with wealth. The magnificence and grandeur of Roman architecture is the theme of every school book. At the time of Julius Cæsar, Rome was practically mistress of the world, and, as it was significantly said, all roads led to Rome.

At the beginning of the Christian era, the Romans had long been masters in Greece. They now turned their attention to Egypt, and Alexandria became a Roman town, the ill-fated Cleopatra being the last of the Egyptian monarchs. The spirit which alone animated the Romans was war and conquest; extension of dominion was the ruling passion, and in

all cases with them the end justified the means. If it were necessary to sacrifice a million lives for the attainment of an object, they were sacrificed without the slightest compunction or hesitation; but they were not, as a rule, wanton destroyers, nor did they interfere with the manners and customs of the conquered races more than was necessary for establishing the permanence of their rule and the carrying out of their system of government. The religions of the different peoples subject to the Roman power were respected; or, rather, they were treated with contemptuous indifference, but were not interfered with by the conquerors. Such was the uniform conduct of the Romans towards the vanquished.

Their vigorous and able minds led them to utilise and benefit by all they saw and heard in the many countries over which they held sway; and their beloved city of Rome was the constant object of their care and attention. To make it a city fit to be, as it really was, the capital of the world, no exertions and no expense were spared. How they succeeded is testified by the fact that for centuries Rome has been one of the great show-places of the world, as much on account of the magnificence of its remains, as having been the theatre of the most momentous events in European history. Here and there in the Italian peninsula were to be found men of great attainments in various subjects, but in Rome itself all branches of learning were studied in the schools, and great proficiency had been attained by the upper classes. Some of the great names at this period are second only to the greatest names of Greece and Alexandria. Between Rome and Greece

there had long been going on that interchange of advantages which always takes place between two peoples who are in touch with each other; and constantly Greek teachers found their way to Rome, where they were invariably received with open arms. Rome, therefore, at the time of which we are writing, was in possession of the most advanced civilization; and her foremost men were quite capable of extending the boundaries of knowledge, and handing it down to future generations.

Long before Christianity had obtained much power and influence, polytheism in all its forms had lost its vitality, even with the mass of the people. For centuries it had been gradually dying around the shores of the Mediterranean; from the time, in fact, when the commercial activity began between Egypt and the Mediterranean nations. Intercourse between the peoples brought their innumerable gods together, and set up a rivalry between their various pretensions, which had the effect of opening the minds of their devotees. In Rome, which was a small world in itself, and contained the elements of all nations, there were about twenty thousand gods, and no man possessing a glimmering of intelligence could long be a spectator of such a marvellous assemblage of the gods of the different nations without having his faith in them weakened. The progress of philosophical thought, physical discoveries, and other forms of intellectual activity were doing their work, and penetrating the minds of the masses, producing gradually those changes in the public mind which lead to the acceptance of new ideas. Moreover, many peoples had witnessed the impunity

with which their gods could be insulted, maltreated, and destroyed by the enemy, thus conveying the impression that men with whom they themselves could contend were more powerful than their gods.

The religions of the Greeks and Romans never had any hold over the intellectual classes; they were all followers of some school of thought or other, much in the same way as the religions of to-day are discarded by the intelligent for higher thought and nobler morality than they contain. Man repeats himself in history, and the parallel is probably much more complete than we suspect. As in those times gross forms of belief were a necessity with the unintelligent masses, the cultured had to pretend to acquiesce in such beliefs. So in our day the emancipated find it convenient, for the sake of tranquillity, to conform outwardly to the "respectabilities" of one or other of the many little pious shibboleths around them. It is lamentable that it should be so, for it helps to prolong the reign of superstition, and retards progress. Moreover, it is a species of hypocrisy quite unworthy the character of an enlightened, honest man.

Christian writers have always pictured the world as sunk in the most miserable and abject superstition and ignorance, from which it was rescued by the teachings of Christianity. Nothing could be wider of the truth. It is true that the gods were still worshipped in all those parts where early Christianity spread; but they were fast losing their influence, and had become objects of derision in many places, almost as much as objects of veneration. The forms of worship remained long after life had

departed. This is always the case in all social institutions, but in none are the forms so tenacious of life as those of religion, especially when it has struck its roots deeply through the growth of ages. The idols were shattered, not by the teaching of Christian doctrine, but by those innumerable influences under the incessant operation of which the transformation of thought and feeling is effected both in individuals and in societies. Indeed, I believe it would be quite within the actual facts to maintain that the Christian Church prolonged the existence of paganism by the alliance that she subsequently contracted with it. By this I do not mean a prolongation of the *forms* of paganism, which, as we know, still constitute a great part of the ritual and doctrine of the Church; but I refer to the essence and substance of polytheism, which gathered new life and additional strength as it became amalgamated with the rising religious power.

It is true that when in Rome the new creed was establishing itself and making converts, the inhabitants of the city had reached a low stage of debasement; but it is also true that the degradation went on step by step with the rise of Christianity. And, so far from the new teachers arresting or assisting to arrest the downward course, they were engulphed in the whirlpool of mad demoralization which embraced the whole of the society of Rome; and the simple teaching of the noble-hearted founder was overlaid by, if not entirely lost in, the mass of corruption which soon went under the name of Christianity. Where now were the communism and the equality of man which Jesus taught—those parts of the Christian creed to

which it owed its vitality and its very existence? Roman Christianity purify rotten Rome! Why, before that great mass of debased humanity began to emerge from its seething, sweltering cauldron of debauchery, Roman Christianity had become a part and parcel of it; and when, in a subsequent age, the civil power in the eternal city died, the hierarchy became heir to all its crimes and debaucheries, without one single feature of its redeeming virtues! And under the cloak of religion, with her hands folded in mock humility and piety, the Roman Church became a greater scourge of the human race than ever the Romans had been in the very worst days of their butchering conquests. No heart today could bear the burden of reading a history of her crimes. "Vicegerents of God on earth," indeed!

The corruption of Rome was the inevitable consequence of her enormous wealth, and was in no sense connected with the religious element, Christian or pagan. Demoralization keeps pace with the increase of riches wherever men are collected together in the contagious atmosphere of cities; and we must bear in mind that the city of Rome was practically the receptacle of the riches of the world. Nothing demoralises men and societies so completely and so rapidly as unbounded wealth, unless it be abject poverty. Few men can long remain virtuous who are subject to either. Let us suppose London or Paris to have the power to call upon the rest of the world for free unlimited supplies of the whole range of human desires, does any one who knows anything of those cities experience a difficulty in picturing society approaching

demoralization as deep as that to which Rome descended? If he does, I submit that he knows little of human nature; its mainsprings of actions and desires are little altered. Man is pretty much the same in all ages, where no wide dissimilarity of conditions exists.

In considering the condition of the Roman world we must carefully guard ourselves against confounding it with Rome itself. The city of Rome, whilst becoming the metropolis of the world, and by far the wealthiest and most important city, was yet but one town; and in point of magnitude and number of inhabitants was but a fraction of the Roman world, which embraced within its wide area thousands of towns, peopled by different races. These towns, not being subjected to the demoralizing influences which destroyed society in Rome, escaped her fate for the time being, though they were destined ultimately to fall under the shadow of another power equally deadly to the healthy growth of society. For the present they shared in the general progress which was stimulated by several causes, but more especially by the activity and spread of commerce; all the provinces of the empire being in close trading relations with one another. This was not only conducive to material prosperity, it facilitated the spread of knowledge; and soon the provinces participated in much of the civilization and the arts and sciences for which the cities of Greece and Rome itself were so famous. The Adriatic and the Mediterranean were covered with ships laden with merchandise; and every vessel carried the seeds of social growth. Wherever

the Roman soldiers conquered there they settled, and introducing the knowledge they had acquired, the most distant provinces were in possession of aqueducts, bridges, noble roads, grand buildings, and useful engineering works. "Arts, science, improved agriculture spread among them."

Rome was an empire, the greatest and most powerful ever known, but it was not a nation; the Romans had no country though they ruled the world. Their only country was the city of Rome. They settled down peacefully amongst the peoples they conquered, and in time became merged and lost in them. To the conquered nations they carried their civilization; and though they disappeared as Romans they emerged as Europeans; and the peoples who swallowed them up and transformed them, partook of their advanced knowledge and capacities. From being hordes of little better than barbarians, they soon, under the civilizing influence of the Roman element, entered upon the high road of progress. And while the Roman empire was disappearing, the nations of Europe were forming and growing; and had they been permitted to develop their resources, under the guidance of all that they had acquired from their conquerors, there would have been no stagnation of hundreds of years to record in their history. While, therefore, the pandemonium within the great city itself was consuming the inhabitants, sapping all authority, and preparing the downfall of the empire, the rest of the world was making great progress; and there is every reason to believe that superstitions of every kind were on the fair road to extinction.

Tacitus laments the decline of religion. "The holy ceremonies of religion," he says, "were violated." From this we gather that the superstitious observances, which went under the name of religion, were not only neglected, but had become the subjects of jest and ridicule. The sacerdotal order, with all the miserable ceremonies and beliefs, was falling into decay and losing influence with all classes. The causes of change in public sentiment and thought are subtle and numerous, and quite beyond the power of man to exhaustively analyse. They never cease to operate for the smallest fraction of time. Besides the causes I have already mentioned of the decline of the authority of the gods, another powerfully disintegrating factor was their removal from place to place, necessitated by the aggressive wars of Rome. The influence of the gods was local, and their habitation could not be disturbed without lessening their authority, and creating disastrous confusion in the minds of their followers. But the glorious results of Greek and Alexandrian genius were capable of universal diffusion, and gathered strength as they spread. Natural truths are confined to no particular locality; they appeal to the reason under all circumstances of time and place. The application of physical discoveries to the necessities and comforts of life is perhaps the most impressive of all the instruments of social progress among the people at large; and has proved, especially during the last three or four centuries of our time, quite irresistible in combating the "spiritual" thunders and threats of the churches of all denominations.

In the early periods of European civilization there had gone forth from those great centres of knowledge, Greece, Alexandria, and Rome, an intellectual impulse which had stamped itself upon the nations, and was gradually moulding their progressive development. And there can be little doubt that, as it assisted in destroying the reign of the multitudinous idols, it would have taken the lead in transforming religious sentiment and thought into higher and grander ideals. It would have anticipated by a few centuries the solemn cry of the Saracens that rang through Egypt, Palestine, and Persia: "There is but one God"; and instead of the absurd medley of Jah, Jesus, Mary, Holy Ghost, angels, saints, demons, and images, which the sword of Rome, or rather Constantinople, imposed upon Europe, the European era would have opened with a religion superior to that to which it has yet attained. And we may be permitted to indulge the belief that instead of tens of thousands of men wasting their energies and the substance of other men in vain wrangling over such an incomprehensible and meaningless jargon as the above, their time and abilities would be turned to much better account. I have endeavoured, though very inadequately, to give a bare, brief outline of the condition of the world at the beginning of the rise of Christianity; and I have asserted that the ignorant and backward state of the Middle Ages was due to the action of the Christian Church. I unreservedly affirm my belief in that statement; and I will endeavour to show, from what appears to me to be incontrovertible facts of history, that it is true; and

that the Christian Church by her deliberate conduct arrested all progress, by stopping the spread of knowledge and suppressing it as far as lay in her power. If this is true, the facts of history must prove it; if untrue, they are equally available for disproving it. Let us now turn our attention to the rise and progress of Christianity, treating only of those important facts on which the subordinate series depended. We have no true history of Christianity, and never can have now. The Christian historians have so distorted the facts, and taken for granted the falsehoods of the fathers who destroyed, as far as possible, the means of detection, that there is now not sufficient material available for a truthful history.

CHAPTER IX.

FROM THE RISE OF CHRISTIANITY TO CONSTANTINE.

In ancient times, as we have seen, it was a common occurrence for "virgins" to give birth to god-begotten children; and without adopting any particular theory respecting the rise of the divine origin attributed to Jesus, we can understand that Joseph and Mary might be induced, by the awful punishment awarded to the crime of unchastity, to concoct the story about the Holy Ghost. The expectation of a Messiah was at that time filling the Jewish mind, and the fraud would therefore be all the more easy to perpetrate. Be this, however, as it may, we are asked to believe that God came upon earth in the form of the man Jesus, who is supposed to have been both father and son—a mystery which I myself do not pretend to understand—and to have founded a new religion. We are further invited to believe that after having led a wandering life for a few years, without producing any very great impression upon the people, he was put to death for preaching doctrines not approved of by the Jewish authorities. The miracles he is said to have performed carry their own refutation; for if he had really performed any miracles, they would have been convincing proof of his supernatural power, and would have irresistibly established his pretensions.

If he possessed that power, he could at all times have manifested it; and it is inconceivable that, if he was really what is claimed for him, he should have gone through what he did, suffering a cruel death, in agony, like any other mortal man. To have shown his power at the moment when they were about to nail him to the cross, or after having been nailed up, to have quietly stepped down unhurt; or to have risen into the air and disappeared, or to have performed any one of a thousand other actions possible to Omnipotence, would have converted the whole world. What was the use of his coming on earth at all on any mission if he came with mortal power only? How could he expect people to believe him if he could not show any superiority to other men, at a time, too, when of all others it would have been most effective for the success of his mission, and was most required? "The god who cannot defend himself is a convicted sham."[1] But the whole subject, in the light of our knowledge to-day, lies so utterly outside the domain of reason and common sense that it seems a waste of time to discuss it.

With the life of Jesus we are very little concerned. He ran the course usual with most founders of new religions—obtained a few adherents to whom he transmitted his ideas, hopes, and fears; and ended his life, as all other mortals do, without any supernatural manifestation. Under pressure of the various burdens that oppressed him, as they oppress the hearts of all men more or less, he gave expression at times to his feelings in language vague and mys-

[1] *Intellectual Development of Europe*, vol. i. p. 320.

tical, which the untaught around him interpreted in a literal sense. A great heart struggling to find expression for its over-charged feelings will often use words for the explanation of which we must apply another standard than that of literal meaning. No doubt we have many feelings which we cannot explain in terms of exact knowledge, and we rightly refuse to admit them within the sacred domain of science. A hunted and ill-used man, conscious of the misery around him, and believing that he could teach men the way to redemption, would, in the fervour of his religious nature, draw near to his God, in whom he would take refuge from the oppressive injustice of men; and what so natural as for such a nature in such circumstances to exclaim, "My father and I are one"? How many under similar and other feelings, recognising the Unity of Nature, have made use of such expressions! I am not attempting to give any explanation of the language attributed to Jesus. I regard his words as I regard the words of other men, and treat them accordingly. Much of his nature may have bordered upon insanity, as genius is frequently said to do, judged by the common level of intellect. We are concerned here with the actions of the gigantic power that grew up upon his name; and not with his simple, just teaching, most of which disappeared with the man himself. The doctrine of a future life, the immortality of the soul, which he is said to have taught, was not by any means a revelation to man; it was familiar to the human mind long before he was born, and was a subject of widespread speculation during his time. Indeed, as Dean Milman

says, "in a certain sense, it was already the popular belief among the Jews." [1]

After the death of Jesus his few followers continued to preach his doctrines, and in time the sect grew in numbers and influence, and spread over Palestine and Greece, finding their way to Rome and Alexandria. The varying degrees of success which attended the spread of Christianity were similar in their general character to those in the growth of every new religion. The Galilean preachers, leaving their homes and means of livelihood, and proceeding to Jerusalem, had to be supported by alms or contributions from their converts. In time these contributions grew into a very considerable fund; and after supplying the needs of the preachers, the overplus was distributed among the poor. This came to be one of the most powerful proselytizing elements in the Christian religion, and was one of the earliest causes of dissension arising among them. Accusations of unfair distribution of alms are met with among the earliest records of the religion, before even it had extended the boundary of its operations beyond Palestine. In religion, as in everything else, money makes the wheels spin round; and it is no reproach to any religion that it has to avail itself of this purely mundane element. No god has ever yet found for his servants any other means of support, and the Christian's god is no exception to this rule; he leaves those who do his work to be fed and clothed from the labour of other men, many of whom are themselves in a state of starvation.

[1] *History of Christianity*, vol. i. p. 340.

The contest between Christians and Pagans in Greece, Rome, and Alexandria began very early, and was sometimes carried on with great bitterness on both sides, especially in later times by the Christians. The ancient religions, as I have said, were crumbling in all directions, and this fact made the introduction of Christianity much easier than it otherwise would have been. It is no exaggeration to say that except in Palestine, as a rule, the opposition offered by individuals was more of a passive than of an active character. The persecutions of the Christians under some of the Roman emperors would seem to contradict this, as would also the frightful contests, often resulting in massacre and bloodshed on a large scale; but the fact remains that the ancient superstitions had lost their primitive vitality and hold over the great majority. Had this not been the case, we may reasonably infer that Christianity would have died in the land of its birth, probably in the first half century of its existence. It is well that we should bear this in mind, because Christian writers have invariably maintained that their religion made its way in early years by the force alone of its divine character, in opposition to every kind of hatred, superstition, and the civil power of nations arrayed against it. It requires but little reflection to convince us that this is altogether false. An insignificant sect, such as the Christians were in the first century, could never have made headway except by the indifference and toleration of the Roman powers. It was quite another matter in after years when it had grown to great numbers and power, and had made

numerous converts among the ruling classes, who were influenced chiefly by political considerations, as we shall presently see. Christianity has, in fact, always been more of a political than a purely religious organization.

The many forgeries and falsehoods in which early Christian writers have been detected, should make us receive with great caution their statements respecting the treatment they received from the Roman authorities; and when we have no testimony from the other side, we can only use reason as our guide in accepting or rejecting their statements. In so doing we shall naturally seek for motives for the conduct attributed by the Christians to their religious opponents; and if we find that conduct to be altogether at variance with their habitual proceedings under similar circumstances, without any assignable motives for such deviation, we shall feel ourselves justified in treating those assertions of wanton cruelty as a part of the system of pious fraud which we know the Christians pursued in furtherance of the interests of their religion. As a rule the governing classes at Rome had no strong personal feelings on religious subjects, and the exigencies of their position compelled universal toleration of all forms of belief. It was the policy of Rome, alike through the personal inclination of the governors and from the necessities of the situation, to afford protection to the numerous religions of the peoples under their control; and we know how inflexible the Romans were in pursuing, at all hazards, any line of policy which was deemed to be in the interests of the empire.

Reason is utterly at a loss to account for the persecution to which the Christians allege they were subjected. They were only one among a thousand sects; they were, they tell us, a peaceable, law-abiding community, and taught obedience to the people. Why then should they have been singled out from a thousand others for punishment and cruel persecution by the mighty power of Rome? The presumption is that the Christians have invented many of these tales of persecution, and greatly exaggerated others, for the purpose of enlisting the sympathies of posterity, and to give the impression that Christianity grew so rapidly in power and numbers that the jealousy, hatred, and fear of Rome was excited. A word from either of the emperors who have been accused of torturing the Christians would have crucified every living soul among them in the city of Rome within a few hours of the promulgation of the order. It is more than probable that those who were executed met their death for the violation of religious laws and disturbing the public peace, for which the Christians in after ages became very famous. That the Emperor Nero was guilty of the most abominable and atrocious cruelties to the Christians we have on the authority of Tacitus; but it was not the result of Roman policy, or fear of the obscure sect. Nero was suspected of being the author of the great fire of Rome, and to turn the attention of the people from himself he accused the Christians of the crime, and tortured and burnt them in the gardens of his palace, in the presence of the assembled Romans, who pitied the sufferings of the unfortunate people.

On the spot where the first Christians were burnt the popes, in after years, built their gorgeous palace, from which went forth papal decrees which rivalled the doings of Nero himself in cruelty. We might almost say that the devilish ingenuity of the Christian pontiffs, in the service of their god, exceeded the cruelties of the very worst of the Roman emperors.

It may, in view of the pretensions of the Christians, seem an extraordinary thing that in their hour of trial they derived no succour from the god whose work they were performing, and in whose honour they always declared they suffered; while yet it was a common thing for him to interpose his power for the accomplishment of all sorts of unimportant, insignificant events, at times and places invariably hidden from the eyes of unbelievers. If their god was constantly performing miracles, and otherwise assisting his devout servants in spreading those truths, on the acceptance or rejection of which the everlasting happiness or misery of man depended, and to teach which he himself came down to earth in human form, surely it would be but reasonable and just to expect that among his many acts of grace he would vouchsafe his assistance to poor man, in those moments of agony when, in his helplessness, his enemies were triumphing over him and the cause for which he suffered. To convert a jailor, an earthquake is made to burst open the prison doors; but when Paul, the great preacher and expounder of religious doctrine, to whose exertions probably more than to those of all others who preceded him the spread of Christianity was due]

is in dire peril in the hands of his enemies, no assistance is forthcoming, and his head is chopped off without any sign whatever from the supernatural source whence so many had appeared in connection with infinitely smaller matters.

On this subject Gibbon, in his famous fifteenth and sixteenth chapters, is very caustic. He says: "During the age of Christ, of his apostles, and of their first disciples, the doctrine which they preached was confirmed by innumerable prodigies. The lame walked, the blind saw, the sick were healed, the dead were raised, demons were expelled, and the laws of Nature were frequently suspended for the benefit of the church. But the sages of Greece and Rome turned aside from the awful spectacle, and, pursuing the ordinary occupations of life and study, appeared unconscious of any alterations in the moral or physical government of the world. Under the reign of Tiberius, the whole earth, or at least a celebrated province of the Roman empire, was involved in a preternatural darkness of three hours. Even this miraculous event, which ought to have excited the wonder, the curiosity, and the devotion of mankind, passed without notice in an age of science and history!" Speaking of Seneca and Pliny, who each wrote on natural phenomena, being in ignorance of this greatest of all wonders, the historian says: "Both the one and the other have omitted to mention the greatest phenomena to which the mortal eye has been witness since the creation of the globe." I ought, perhaps, to apologise for taking up the reader's time with the subject of miracles.

The conversion of Paul was by far the most

important event in the early life of Christianity He was the first among the preachers who possessed any education, to speak of; and even he does not appear to have been very successful in making converts, except amongst the very illiterate. After all the grandiloquent language, filling countless volumes, with which this subject has been surrounded, it is difficult to bring it within the compass of sober reason and fact. The "commanding eloquence" with which, we are told, the illiterate preachers overawed great multitudes is repeated in our time by the orators of the Salvation Army, and their converts were, no doubt, from similar classes. A comparison of the success of the two movements would result in favour of the Salvation Army; there can be little doubt that it has made far more converts and collected more money during the years of its existence than Christianity did in the same length of time. We may fairly assume, too, that the early Christians were as offensive, in their ostentatious displays, to the rest of their fellow townspeople as the Salvationists are now; and in all probability, considering the vastness of their pretensions, they were very much more so.

Christian writers tell us that the polished intellects of the Greeks enabled them to appreciate the "high and sublime truths" that Paul preached to them on the Areopagus at Athens. As a matter of fact the educated Greeks treated Paul and his doctrines with supreme indifference, or, if they bestowed a thought upon him, it would be one of contempt. Even the one or two conversions of people of some position that Dean Milman tells us

he made on this occasion may be received with some doubt; but it is certain that if he met with any success at all, it could only have been with the untutored mob, many of whom, as we have said, had long since shaken off the influence of their gods. To the end of the first century Christianity was confined chiefly to the poor and ignorant, to whom it strongly appealed. But numbers, no matter from what class, become powerful, especially when organized. "The slight and contemptuous notice excited by Christianity during the first century of its promulgation is in strict accordance with this ordinary development of the great and lasting revolutions in human affairs."[1] Even so; but where was the unparalleled influence said to have been exerted by Paul wherever he went?

He travelled over the whole area of the Christian field, "from the borders of Syria, as far as Spain, and to the city of Rome"; and in every place he visited he left Christian colonies—communities of poor men and women, who now learnt for the first time that in the eye of the Supreme Power of this world they were of as much importance as the high-born, rich, and powerful; and that when their earthly trials and sorrows were ended they would, by joining this sect, go to a place of everlasting bliss. No religion had hitherto appeared among men so calculated to win the hearts of the poor as the Christian religion; and if it had maintained its early comparative purity, and taught only the permanent and ever vital truth, the equality of man, it might have been a blessing instead of—as I

[1] Dean Milman, *History of Christianity*, vol. ii. p. 1.

believe it has been—the most awful scourge that has ever afflicted any portion of the human race.

While, however, it was so eminently adapted to enlist the sympathies and affections of the poor and untaught, it was of all known religions, the one most likely to be rejected with contempt by the sages and educated classes of Greece and Rome, who were sufficiently advanced to understand the true nature of religion in all its guises. So far from Christianity presenting to the world, in its multitudinous and conflicting tenets, high and sublime truths, it asked men to believe in what appeared to the intelligent nothing but gross superstition and absurd nonsense. To bring the matter more forcibly home to our minds, we might assume as a parallel case, some ignorant preachers from the Salvation Army, or equally untaught Methodist parsons, asking Professor Huxley, Mr. Herbert Spencer, and Sir Robert Stawell Ball to discard all their "notions" of science and philosophy, and believe in the simple unsophisticated creed, founded upon a literal interpretation of the Bible. If these gentlemen were further asked to believe that a companion of the preachers, who had been travelling about with them preaching socialism and inciting the people to riot and disorder, and who had just been hanged for the commission of some capital offence against the laws, was really the great God of the Universe, the author of all their science had taught them, and that he was also his own son, may we not fairly ask, would the "polished intellects" of these gentlemen qualify them for the acceptance of such "high and sublime truths"?

I do not think the analogy is either unseemly or unjust. The cultured minds in the time of Jesus were as capable of forming a correct judgment upon such matters as the eminent men mentioned above; and I venture to say the latter would be just as likely to reject as untrue all their knowledge of science and philosophy, at the bidding of the ranters, arrange themselves in the order of procession, and to the sound of drum and timbrels parade the streets, singing hallelujahs in company with the Salvation lads and lasses, as the former would be to forswear the grand achievements of Greek intellect for the "sublime truths" of the deluded ignorant fanatics of Galilee. There is another consideration, too, which in the interests of truth, should not be lost sight of. The times were eminently favourable for the acceptance of any amount of imposture in connection with the long-looked-for Messiah or deliverer; and acute men with some gift of speech are not slow in all ages in discovering that it is much pleasanter and easier to obtain a living by preaching than by hard manual toil. We know that the disciples of Jesus frequently quarrelled among themselves in arranging their respective positions in the coming reign of power, which they believed would ultimately crown their hopes; for it is believed by many that Jesus aspired to be king of Judæa. The vain temperament of some men will lead them to court danger in the pursuit of their dominant passion, in religion as in other matters. But, in truth, in the first century, at least, the Christians were in little danger, for even their own historian has told us that they excited little notice, and that was of a contemptuous char-

acter. If Paul was beheaded, it was not because he was a Christian, but because he had by his conduct rendered himself amenable to the law which awarded the death penalty for his offence. As a pagan, he would have been similarly dealt with for the same crime.

Towards the end of the second century, Christianity had spread over the whole extent of the Roman empire, and there were few if any towns of importance where it had not obtained a footing. Unlike the Hebrew religion, it was essentially a proselytising creed; it opened its wide arms to all, without distinction. It offered, with no uncertain voice, an eternal future of happiness to all who embraced its doctrines with *unquestioning faith*. It spoke with a voice of authority in which there was no hesitation or doubt. Men who believed that the eternal God had come down to earth to teach them the ways of salvation to life everlasting beyond the grave, would speak with all the power and earnestness of conviction; and we all know the influence speakers exercise over their audience, when they truly believe what they preach, and have the ability to enforce their teaching in fervid, if rugged, language. To believe that he was doing the work of the eternal Power might well give to every Christian, however humble and ignorant, unbounded courage to persist in spreading the precious knowledge, in spite of dangers and difficulties. He was in direct personal touch with his god, who looked with an eye of approval upon all he did, and what to him, under such circumstances, were any dangers which threatened merely his "worthless" body, in comparison with the salvation

of his everlasting soul? Dreadfully in earnest were those early Christians! Their master was but a little distance above them in the heaven that he had prepared for them; and had he not told them that he would shortly come again in his wrath and destroy the whole earth by fire?

There was not a soul among them, who had really embraced Christianity, who did not literally believe that the end of the world was close at hand, and that Christ would a second time appear amongst them to reward the good—the Christians—and punish the bad—all who were not Christians—with the awful torments of eternal fire. To the believer in Christ, a home in heaven transcending all conceptions of human happiness; to the unbeliever, a lake of living fire, in which the damned were to burn without consuming for ever and ever, through all eternity: and one of these two alternatives was near at hand; there was no possible escape from the awful doom except by becoming a Christian and believing in Jesus. With their minds constantly filled with such thoughts, we can understand and make every allowance for the zeal with which they pressed, in season and out of season, the priceless boon upon the pagans. They were in error, though grimly unconscious of it; and no earthly power could have enlightened them, for the simple reason that they had not the understanding to which reason alone could have appealed. The opponents of Christianity, who represent the early Christians as impostors, are either insincerely unjust, or know little of the subject. It was very different in after years when it had attained to sovereign power. The

horrible lives of many of the higher ecclesiastics during several centuries utterly forbid the belief that they had any faith whatever in the doctrines of their church—in the godhead of its founder, or in the life hereafter which he promised them.

In these considerations we shall find an explanation of the "persecutions" of the Christians under some of the emperors. With a few exceptions of monstrous conduct on the part of emperors who were fiends in human shape, the Christians suffered little *persecution*. This word has been abundantly used by Christian writers for describing the punishments awarded to them for breaking the laws. One of the most stringent of Roman enactments forbade the formation of organized societies, or secret gatherings of any kind. To this prohibition the Christians paid no heed; and owing to such violation of the laws under which they lived, and which as good citizens they were bound to obey, they were incessantly in conflict with the Roman authorities. Organization was the essence of progress in Christianity, and for this the Christian possessed the most perfect genius. From the earliest times methodical arrangements were made for propagating the faith and making converts; and, wherever they went, they organized themselves into regular bodies, the focus of which was the Church, where they assembled and held their meetings. They sternly held aloof from the pagans, and refused all communication with them, even in the daily offices of life, into which, however minutely, were blended any of the forms or ceremonies of paganism. And since the pagan religion permeated the whole of social life, it

was impossible for the Christians to form any part of the community, except as a distinct and separate body. This brought them into conflict with the established customs; and it was for breach of law that they suffered punishments, and not because they were Christians *quâ* Christians. From their point of view we do not blame them, nor can we censure the Roman authorities: every government in Europe to-day would act similarly towards any bodies of men who should persist in setting at defiance the laws of the land in which they live.

So far as the pagan populace was concerned, the Christians met with little opposition or molestation. It was a matter of supreme indifference to them what god or gods the peculiar sect worshipped, they were too much accustomed to varieties of gods to pay any heed to either the worship or to the gods of their neighbours. Not so, however, with the Christians; they were commanded by their god to extirpate all other gods. He could not brook a rival, and in the belief of his worshippers no duty was so sacred or so acceptable to him as the destruction of his rivals. They went about, therefore, uprooting what they called idolatry, which means that they outraged the feelings and susceptibilities of their neighbours on every conceivable occasion. Whenever they had an opportunity, they violated the temples, and destroyed the gods that they contained. They interfered in all the religious ceremonies of their fellow townspeople, brandishing a great wooden cross before their faces, and thrusting it in between processions of worshippers; "careering," as we are told, "like wild asses," they shouted damnation as they

went through the streets to all who refused to listen to them, and to accept the doctrines of the new creed. Their intolerance, arrogance and audacity knew no bounds, and it is a most melancholy fact of history, that as soon as they gained sufficient strength they deluged the streets of every town of the empire with blood. They were the first to resort to violence, and they never ceased until the consolidation of their power with that of the empire was effected, when the victims of the church were handed over to the civil power to be burnt alive with the pious formula, "deal mercifully, and shed no blood!"

But it was not always with the pagans that these scenes of carnage were enacted. The Christians soon became split up into numerous divisions over trifling points of doctrine: each sect being distinguished by an appellation. Concerning the nature of Christ, creed after creed arose. To the Ebionites he was merely a man; to the Docetes, a phantasm, and so on. There were the Gnostics, the Donatists, the Arians, the Pelagians, the Nestorians, the Eutychians, the Monothelites, the Mariolatrists, the Trinitarians, and a host of others, all of whom fought like raging tigers among themselves, a spectacle alike for gods and men. Some idea may be gathered of the mass of contradictory beliefs constituting the Christian religion from the fact that the Gnostics alone were divided into fifty sects! They were the most intelligent of the lot. In the incomprehensible jargon of the Trinitarians, the human reason reached its lowest depth of degradation. Never before in the history of the world was such a melancholy spectacle

of human debasement witnessed; never before was the intelligence of man so prostituted, so completely demoralised. "High and sublime truths," indeed, to teach to the sages, and intellectual classes of Greece, Rome, and Alexandria! Humanity shudders at the thought of this depraved, ignorant mass having obtained control of the destinies of the human race for over a thousand years, to the destruction of learning, civilization, virtue, morality, and almost every human tie.

So far as Rome itself is concerned in the progress of art, science, philosophy and general civilization, we must regard it, during the third century, as a city that had reached the zenith of its prosperity and influence, and which contained the seeds of its own dissolution, apart from the incursions of barbarians, or any other external causes. Unbounded wealth had undermined the foundations of its former greatness, and led to those scenes of disorder and civil discord which were so favourable to the Christian cause. Rome had lost her moral supremacy in the empire before Diocletian removed his court to Nicomedia. The decline of Rome, as given by historians, beggars all description; it would serve no purpose, however, to repeat here the well-known tale. We read with horror of the depth of depravity to which the people of all classes sank; but it is well for us to bear in mind that Rome was exceptional only in her opportunities, which brought about this disorder and decay. Let us not pride ourselves too much upon our superior virtues and morality: given the opportunities to-day, and Rome would be repeated.

It is the fashion to represent the followers of

Christ as pure and uncontaminated by the demoralization that was going on around them, and as labouring for the purification and conversion of the degraded populace. Perusal of contemporary history entirely disproves this; and though we may discount a good deal of the mass of accusations that was brought against the Christians from time to time, we cannot escape the conviction that they also were infected with the dissoluteness and immorality which reigned supreme in all ranks of society. This conviction is further confirmed from a consideration of the nature of the Papacy which grew out of the disintegrated and rotten mass. It was not a foreign element superimposed upon it, but a part of itself, born and nurtured in Rome, and composed of its different classes. It drew its life-blood from the same source, and during the whole of its existence it never belied its origin; but, on the contrary, it excelled in infamy even the very worst periods in the life of its progenitors.

We cannot imagine a soil more fertile for the growth of the Christian faith than was Rome at this time. The ancient religions discarded by the great majority, satiated with riotous living, and weakened by general demoralization, the native vigour of mind which had carried the Romans on from victory to victory until they had become masters of the world, had entirely deserted them, and their degeneration had produced a state of mind agreeable to the acceptance of such momentous promises as were contained in the new faith. By this time the Christians were a strong, numerous, and well-organized body in Rome, and were to be found in all grades of

society. The bishop had become a very important personage, and had assumed the position and authority of a secular lawgiver to his churches and people, as well as being their spiritual head and guide. In proportion as Rome declined the religion flourished; and step by step the bishop fought his way to supreme power, until the cross was planted on the Capitol of Rome. The awful contests that were carried on between the three bishops of Rome, Alexandria and Constantinople for supremacy, eventually resulting in the triumph of Rome, and the creation of its Pope, are well known. Bribery and corruption were the most harmless and moral agencies used by the higher ecclesiastics for compassing their ends. Murder on the largest scale was freely resorted to, and one of the bishops of Constantinople, Macedonius, had three thousand people slaughtered to get possession of his episcopal throne.

The Christians were no longer an obscure sect; they had made converts in the very highest quarters, the wife and daughter of Diocletian, the great emperor, being among them. In the army there were also many Christians, and grave consequences were likely to ensue from their refusal to join in the pagan rites, which were universally observed by the Roman soldiers. It was not so much their numbers, however, as their aggressive attitude which made the Christians so formidable at the beginning of the third century, at the time when the power of the Roman authorities was considerably weakened by the wars that raged between the emperors for a number of years, culminating in the defeat and de-

struction of one after another, until the Roman empire was once again united, in the person of Constantine the Great, under a single ruler.

We can scarcely realize the effect upon the Roman empire of Christian aggressiveness at this time, their doctrine of passive obedience notwithstanding. There was not a town, and, we are told, scarcely a village, in the whole of the vast dominions under Roman sway that did not contain an organized proselytising body of Christians, who incessantly attacked, not only the pagan religions, but also learning of every description. And although they did not and could not succeed in making any impression upon the intellectual classes, they found the means of harassing them considerably with their incessant importunities and the continual public disturbances which everywhere took place. Notwithstanding all this, however, it is doubtful if Christianity would have become the religion of Europe had it not been for the Civil power adopting and forcing it by sword and faggot upon the world.

The question may reasonably be asked: Since the world was fast outgrowing its faith in Polytheism, and man in his then existing state of knowledge needed a religion, what was there in the world which could succeed Polytheism? I cannot pretend to give a definite answer, but it seems to me that the question might be partially met by referring to the condition of religious belief among the cultured classes in Europe at the present time. It will, of course, be generally admitted that the current religion among us is a very different thing now from what it was a century or two ago; that many of the

grosser doctrines have been quietly dropped and allowed to fall out of use in the churches. Among thoughtful people Christianity has become more a system of ethics than a dogmatic creed. And if civilization had not been arrested, and the learning that was in the world in the early centuries of our era had been allowed to spread and grow, may we not reasonably assume that if Christianity had taken the place of Paganism it could only have done so under some such form as that in which it is now regarded by the majority, viz., a purely monotheistic creed, shorn of the dogmas which constitute the bulk of technical church or state Christianity?

The gross ideas and absurd jumble of contradictions which existed so long in the Christian religion could never have found their way among, or at all events have been accepted by, people whose civilization had been formed by Greek learning. The Christian faith is nothing without the godhead of its founder, but it is quite certain that this would never have been incorporated in any belief which grew up upon the continuity of Alexandrian philosophy and science. And we may even go the length of saying that we may confidently assert the same with regard to future reward and punishment—heaven and hell. The intelligence of the ancients would never have allowed them to believe in such gross doctrines. I might almost say in proof of this, that we need but remember their great knowledge of astronomy, their true conceptions of the immensity of the Universe, and the multitudinous suns and worlds composing it. Shelley has eloquently and truly said: "The plurality of worlds—the indefinite

immensity of the Universe—is a most awful subject of contemplation. He who rightly feels its mystery and grandeur is in no danger of seductions from the falsehoods of religious systems, or of deifying the principle of the Universe. It is impossible to believe that the Spirit that pervades this infinite machine begat a son upon the body of a Jewish woman, or is angered at the consequences of that necessity which is a synonym of itself. All that miserable tale of the Devil, and Eve, and an Intercessor, with the childish mummeries of the God of the Jews, is irreconcilable with the knowledge of the stars." As to most of the minor tenets and ritual forms, they are too childish ever to have been seriously considered by the intellectually advanced peoples fifteen or sixteen centuries ago. I do not mean to maintain that the majority of the Pagans at that time were intellectually superior to accepting the whole of the Christian religion ; undoubtedly they were not ; but the sages and the superior classes were ; and inasmuch as *they* would have given the direction and tone to the forthcoming civilization of Europe, the grosser forms of Christianity could not long have survived, even if they ever obtained a footing.

The decadence of Rome at the time of which we are speaking, about 300 A.D., was peculiar to that city ; it was not a sign of the times, except so far as the religious shadow was deepening ; the general progress had not yet been arrested to any appreciable extent. The enormous wealth of the ancient capital had reduced the population to two classes only—the very rich and their retainers. The middle classes had entirely disappeared, and with them the

arts and sciences, and nearly every form of industry. It was no longer the home of genius, virtue or talent of any kind, and when a triumphal arch had to be erected for one of the emperors, who took up a temporary residence in the city, it was necessary to dismantle the ancient structures of their ornaments for the adornment of the new building, as Rome contained no sculptors equal to the occasion. This great city, from which had proceeded for many centuries armies that conquered and laws that governed the whole world, was sunk to a population of inebriated gluttons on the one side, and parasites and slaves on the other. May we not truly exclaim, Virtue resides not in man, but is a condition of his environment? Give him his fling, and no mortal can say where he will end. Rome is dead, but from her ashes is to arise a mighty power, under which the spirit of man is to be crushed and subdued for a thousand years. If the poor murdered carpenter, and his mother, who had so often lulled him to sleep as a baby, and prepared his mid-day meal as he trudged backward and forward between his home and his carpenter-father's shop, could have walked through the streets of Rome in after ages, and witnessed the faggots blazing around the helpless victims to the glory of the son, and the costly and sumptuous images adorning a thousand temples to the glory of the mother, with what sad, melancholy reflections would their minds have gone back to the humble home away in far Galilee, where they lived their simple unpretending life until the fatal craze seized the hapless young man. Surely no vicissitudes in human life since the world began could offer such

contrasts as would be afforded to the mother and son, could they revisit this earth for a short space! If the Christian religion is founded on a lie of Mary's, would not the dreadful evidence of the fruit of that lie crush the life out of her heart, and overwhelm the son with undying pity and remorse? Could they—this unhappy mother and her crucified child—have looked into the dark and awful torture chambers of the Inquisition, and seen the silent, dark-robed inquisitors watching the agony of the writhing victims as they lay stretched upon the rack, and one by one their limbs were crushed and mangled into an unsightly mass; would they not have prayed to that god whom they had impiously counterfeited to undo the evil the lie had wrought, and cleanse the heart and soul of man of the dark and gloomy spirit of madness to which that lie had given birth? *A poor carpenter's wife the mother of God!* Madness! Can madness further go?

CHAPTER X.

CONSTANTINE THE GREAT.

An event was now about to happen which we must regard as one of the most momentous in its consequences that has ever taken place in the history of the world; and from which Christianity dates its rapid growth to real power and sovereignty. That event was the conversion to Christianity of Constantine the Great. As to the motives which induced Constantine to embrace the new faith, we need not waste time in enquiring too closely; volumes have been written on the subject to little purpose, and without much edification. But we may, having regard to the character of the man, dismiss the theory put forth by Christian writers, that his conversion was owing to his perception of the "holy and sublime" character of the faith, and the awe with which it inspired him. In the first place, the "holy character" of the Christian faith was abundantly manifested in Rome, in Alexandria, in Antioch, and in every town of the empire, by the intolerant attitude of the Christians towards the Pagans, and also towards one another. He had many a time been an eye-witness of these contests, and had marked the uncompromising and inexorable spirit with which the Christians maintained their cause. He had seen how those Christians marshalled themselves round their respective

leaders, the rival bishops, scowling upon one another like men possessed rather of demons than of those holy influences which were supposed to have captivated the Pagan emperor. He was not likely to stand in much awe of anything which Christianity had to present; on the contrary, he found in it much that was congenial to his own nature.

And in the second place, we have but to consider the deeds of this dark-souled man of blood, to convince us that he was quite incapable of appreciating, or of being swayed in his conduct by, any system of religion which contained a sublime truth or an exalted principle. Apart even from his savage nature, he had waded through too much blood and slaughter to entertain a very fine perception of the higher phases of moral conduct. The gratitude of every succeeding generation of Christians since his day has enlisted a host of writers in his behalf; but the facts of history cannot be expunged; and they are such, with regard to this man, that all his pious apologists and defenders cannot whitewash him, or palliate ever so slightly the dreadful crimes of which he stands convicted. The wife to whom he had been allied for twenty years, and who was the mother of his three sons, he foully murdered in the private apartments of his palace. This deed alone, were there no others proved against him, would be sufficient to place him beyond the pale of humanity; but it was only one of a series of monstrous crimes which contemporary history lays upon the soul of this great Christian hero. He ordered the murder of his own son, Crispus—the unfortunate child of the unhappy wife; and Licinius, his nephew, met the

same fate, in spite of the heartrending supplications of his mother, who was Constantine's sister. He had his father-in-law, the Emperor Maximian, who in past days had been his father's benefactor, put to death. His royal captives, the princes of the Franks, he had torn limb from limb by wild beasts in the amphitheatre at Treves. He executed the two sons of the Emperor Maxentius, together with every living soul of his race. Great numbers of his personal friends were executed with his son and nephew. The son was guilty of no crime, and no attempt was ever made to prove him guilty of any. Informers were invited to come forward, and pour their accusations against the son into the ears of the father; and, of course, enough were ready to hand.

Such was the character of Constantine, the first Christian emperor, whom the Christians have styled "the Great." He was an unlettered, vulgar soldier, but possessed undaunted courage, quick apprehension, and a powerful and comprehensive mind. His was a heart that knew neither fear nor love, and was more akin to that of the savage beast than to man's. If, then, we look for a motive in such a monster's change of religion, it will surely be no compliment to the creed of his choice to attribute his conversion to his perception of the affinity of his character with the spirit of his adopted faith. It is very reasonable to suppose that he was conscious of the decay of Paganism, and knew that, for the purposes of using it as a binding element in the Roman empire, its vitality had departed. He had become master of the world, and recognised, with his quick intelligence and profound political insight, as well as from past personal

experience, the impossibility of long holding together under his sole sovereign control so heterogeneous a mass as the Roman world by the power of the sword alone. He knew that the Christians were getting numerous, and were spread over the whole extent of the empire; and although they incessantly wrangled amongst themselves, it would be a comparatively easy matter for the head of the empire to reconcile their dissensions, create a bond of real fellowship between the jarring sects, and probably within a very short time bring over, by fair means or by foul, the majority of the Roman world to the Christian fold. *One god, one creed*, would do more towards establishing on a firm, permanent basis *one emperor* than many legions could effect; and there can be little doubt that a wily, unscrupulous man like Constantine would not fail to see this, and act accordingly. And may we not say that his success justified the sagacity of his choice? As to his pretence of having seen a shining cross in the heavens, with the inscription, "By this, conquer," and his assertion that when he fell asleep Jesus appeared to him, and directed him to make a banner of the sign, and go forth and conquer, with the cross carried at the head of his armies, we may dismiss the tale as the deliberate lie of an unscrupulous man, and it is now regarded as such.

Probably many considerations combined to induce Constantine to remove his capital from Rome to Byzantium. In Rome, owing to his detestable crimes, he had become hateful even to the Roman people; and a pasquinade having been affixed to the palace gates, he was on the point of taking

revenge for the insult by a general massacre of the people; but his brother, whom he consulted, it is said, advised him to degrade the city by creating another metropolis elsewhere. Byzantium was fixed upon for the new capital, and was named Constantinople, after its founder. His reasons, whatever they were, are not of importance to our subject; but he probably knew that Rome was no longer fit to be the capital of his vast dominions. Her degraded condition was past redemption; and Constantine was, no doubt, fully aware of this. Gibbon tells us that in building the new capital the cities of Greece and Asia were despoiled of their most valuable ornaments. Rome, Sicily, Antioch, Athens, and many other cities were laid under contribution for the embellishment of Constantinople. The historian laments the necessity for this, in the extinction of the genius of Phidias and Lysippus; but such great masters are not to be found in every age, however eminent for genius in other walks of life; and the impatient emperor, who detested Rome, and was anxious to shake her dust from his feet, would not be likely to hesitate about appropriating the masterpieces of art, wherever they were to be found, in preference to the more slow and costly process of creating more, even if such creations were still possible.

On the remark of the historian Cedrenus, that nothing seemed wanting except the souls of the illustrious men whom those admirable monuments were intended to represent, Gibbon says: "But it is not in the city of Constantinople, nor in the declining period of an empire, when the human mind is

depressed by civil and religious slavery, that we should seek for the souls of Homer and Demosthenes." The religious cloud, even before the days of Constantine, had begun to oppress the mind; combined with his tyranny, it now became a formidable foe to liberty and progress. The doctrine of eternal torments denounced against all unbelievers resounded through the length and breadth of the land; and was not, as we know from experience of later years, without its due effect.

But it is distinctly and emphatically with the reign of Constantine that the dark ages begin. Draper says: "To the reign of Constantine the Great must be referred the commencement of those dark and dismal times which oppressed Europe for a thousand years." The Christian Church is now and henceforth a power in the land, not in virtue of her holy character, or of the omnipotence of her founder, but through her alliance with the civil power, which placed at her disposal the persuasive influence of the authority and wealth of the master of the world. The sword of Constantine did in a few years what the cross of the young Jew carpenter could never have effected, notwithstanding the contagion of enthusiasm and religious superstition, gathering strength in a geometrical ratio from age to age. The acts of the emperor showed at once the state of his mind on the subject of religion. He did not blindly or injudiciously fall into the arms of the Church, and accede to all her clamorous demands. Had he been a much weaker man than he was, he would have deluged every town of the empire with the blood of his heathen subjects by acceding to the

importunities with which he was beset on all sides. Instead of this, he proceeded cautiously, and while he rewarded the Christians, he steadily refused, for the present, to commit those wanton acts of outrage on the Pagans to which he was incessantly incited.

Constantine had none of the bigoted zeal of the Christians, and all his actions go to prove that he was a Christian through policy rather than conviction. That policy was in unison with the spread of the religion of his adoption; and he soon began to exercise the same sagacity for the conversion of his empire that he had previously manifested in winning it from his rivals. He took upon himself the office of advising, in the disputes that convulsed the Christian sects, about the nature of the relationship of the three gods composing the Trinity. And he did not hesitate to side with the stronger, and denounced in no measured terms the *heresies* of the weaker. Court females have in most ages been an insidious power in church diplomacy; and through their intercession Constantine was induced to recall the Donatists from banishment; and Arius he denounced as "the very image of the devil." He was an apt pupil, and soon learnt from the instructions of his bishops the choicest language of Christian denunciation.

He exempted the clergy from civil offices; gave to the bishops immense sums of money for the restoration of churches; made the imperial treasury reimburse the clergy for many of their losses; supplied money from the same source for building new churches; forbade any Jew to possess a Christian slave; *enforced the decrees of church councils by*

means of the power of the state; forbade all schism in the Church, constituting himself the judge, under the guidance of those ecclesiastics who happened on the occasion to be in his confidence and friendship. In all these matters, and a thousand others besides, he was guided by policy chiefly. The great Trinitarian controversy, which raged at Alexandria in his time, occupied a good deal of his attention; and, in consequence, the miserable disputes spread among all classes. The glorious seat of philosophy and science was fast becoming a bear garden of wrangling ecclesiastics, fighting over such questions as to whether the son was equal to the father, whether he existed before he was begot, whether he was the father of himself, the son of himself, or both in one!

That such absurd nonsense should ever occupy the serious attention of sane men, is inconceivable to any reasonable person; but that it should have found a home in Alexandria, is the most significant illustration of the intellectual degradation of that once famous seat of learning. It is true that the Museum had as yet but heard the faint echoes of the unmeaning jargon that distracted the city; but it could not long maintain its high intellectual character amid such surroundings, and gradually it became infected, more or less, with the heated controversies which were everywhere going on. The intellectual classes have been blamed for not taking the lead at this period, and directing the mind into higher and healthier channels; but, I think, the blame is most unjust and unreasonable. The number and power of the disputants carried all before them; and they

were, moreover, quite incapable, from passion and want of intelligence, of listening to the voice of reason and sober argument. How was it possible for science and philosophy to make any impression upon men who were ready to shed their blood in defence of doctrines which were a direct contradiction of one another, and in the advocacy of which they made a boast of outraging human reason, on the ground that they were mysteries which only god could understand; and that he had purposely given them to man to try his faith, and thereby his fitness for heaven or for hell? Let those who censure the learned for standing aloof at this and subsequent periods from the contentions of the Christians, ask themselves if they would undertake to go into an asylum of raging lunatics, to prove to them that two and two make four, when those men had taken it into their heads that god had commanded them to believe, in opposition to erring human reason, that two and two made five; and were prepared not only to seal their belief in the "mystery" by the sacrifice of their own lives, but were also prepared to shed the blood of all who questioned the truth of the contradiction, or attempted to submit it to the test of reason.

I confidently appeal to all who are acquainted with Christian controversies, and their concomitant results of outrage and murder, from the time of Constantine to the absolute supremacy of Papal power, whether the above is not a just and sober citation from the annals of those times. Respecting those interminable disputes on every conceivable point of doctrine large volumes have been written;

and in the Church libraries throughout Europe the ponderous tomes fill no inconsiderable space, where they repose in dusty and undisturbed solitude. The impatient reader may ask, "Why disinter these miserable, shameful mementos of human error? Why not let them sleep in the oblivion of the dead past?" I answer, in the first place, that they are not dead, that they have been handed down to us by an unbroken chain—Luther notwithstanding—and that to-day we have to deal with their consequences, which are fraught with the most momentous issues to the well-being and happiness of all classes of Christendom. And, in the second place, that the pretensions of the Christian Churches in those days are precisely those on which they still take their stand, and justify their existence. And, considering that these pretensions are neither more nor less than the commands of the great God, or Supreme Power of the Universe, we are justified in submitting their actions, in all ages, to the test of comparing them with what we recognise as the highest and best in human conduct.

And, furthermore, the clamour with which Christendom was filled for several centuries by the warring sects had no little influence in diverting the intellect from the pursuit of knowledge, and introducing that decay which the faggot and stake ultimately completed. It is the fashion for writers, both lay and clerical, to avoid, as far as possible, the subject of the causes of that marvellous eclipse of learning, and the dreary ages of stagnation, which followed the reign of Constantine. Even among writers of the most liberal views there is the

greatest disinclination to assign the darkness to its true causes, though if we read between the lines, those causes are plainly discernible in their writings. Dr. Draper, for example, in his *Intellectual Development of Europe*, while distinctly—as I have previously quoted—declaring that the commencement of the dark, dismal Middle Ages is to be referred to the reign of Constantine, nevertheless labours throughout his work to show that the intellect of nations dies out, because they run through the periods of infancy, maturity, decay and death, in a manner similar to those periods in the life of man. But he seems to have forgotten that though the man dies the results of his labours, under normal conditions, live and descend to posterity; and that, similarly, though nations die out, their civilization and learning do not die with them, but are diffused through the world. The Romans quickly appropriated a great part of the civilization and learning of the Greeks; and would have gone on growing in this respect, had it not been for their insatiable lust of conquest. The Arabians, in like manner, no sooner came in contact with what remained of the learned works of early times than they made themselves familiar with their contents, and enriched and enlarged their civilization thereby.

Again, Dr. Draper says: Greece, had she been permitted, "would have given a decisive tone to the forthcoming civilization of Europe . . . that great destiny did not await her." No; why? Because, as he says, she was not permitted. And I venture to think that neither Dr. Draper nor any other responsible writer would undertake to prove

that it was not the Christian power that stopped the influence which Greece, had she had freedom, would have exerted over Europe.[1]

It is for the foregoing reasons that I dwell upon the Trinitarian civil wars, and not for the purpose of casting ridicule upon the illiterate mobs who ranged themselves round the leaders of the different sects. If they were guided by folly, and animated by hatred and revenge, they at least bore the consequences of their own misconduct and imperfections, by their slaughter of one another; and, so far as I am concerned, they might rest in that obscurity to which their want of intelligence and general worthlessness of character so justly entitle them. But the legacy, not only of their misdeeds, but also of their false and pernicious doctrines, has come down to us; and in dealing with the Church of the present, as I shall have to do hereafter, it is necessary to examine the Church of the past, out of which it has grown, and on which it still takes its stand. Shorn of its opportunities for oppressive action, its spirit is nevertheless that of its progenitors, skilfully hidden under the cloak of piety and a well-assumed humility of demeanour. While the outward form changes with the times, the nature remains the same; you cannot alter it.

[1] *The Intellectual Development of Europe* aims, above all things, at being organic and philosophical. It is, in this respect, I think, that that otherwise admirable work is wanting. Conceived and written from the evolutionary standpoint, it lacks the organic continuity, which is the characteristic feature of evolution; and for this reason can lay no claim to being a great philosophical work. It is, however, a most valuable collection of facts, and I am under great obligation to it in respect of those facts.

We gather some idea of the Christian bishops' conception of their divinity from the fact that on Constantine, who was dyed with every crime, they conferred the title of god, which, together with a monogram of Christ, was impressed on a medal struck for the purpose. The sun, the Saviour, and the Emperor were mingled together as a sort of Trinity, and adorned one of the highest columns in Constantinople. Between Constantine and the Christians there was a strong bond of sympathy. They were powerful enough at the time of his accession to have kept the purple from him ; they used their great political influence in his favour ; and gratitude, as well as policy, led him to favour them at the expense of the Pagans on every occasion, as far as prudence permitted. But he was not a Christian at heart any more than he was a Pagan, and he often gave offence to the former by the slight concessions—mostly of a negative character—which he made to the latter.

The word "heresy" in those days, and for many centuries subsequently, became a term of frightful and appalling import. It embraced a catalogue of almost every known crime, and exceeded them all in the intensity of its heart-crushing, soul-subduing influence. Between the contending parties it was freely banded from one to another, and was at all times a signal for strife and bloodshed, until the Papal power had subdued all rivals, and tumult and passions were hushed in the presence of the black accusers who did the work of the Inquisition ; when, to lay an information of heresy against man or woman was equivalent to a sentence of death, preceded by the

most excruciating tortures. Constantine had all his work cut out to hold the balance evenly between the different parties. He and others endeavoured to pacify them by the Councils which were held from time to time at Nicea, Rome, Arles, Milan, etc., but such was the fierce character of the superstitious and arrogant sects that the slightest concession made to one party was sure to provoke jealousy and enmity in another. The Donatists, who thought that their rivals obtained more of the ecclesiastical spoils than fell to their share, fiercely demanded of the emperor what right he had to meddle with the Church; and pronounced eternal damnation against all who denied the right of Donatus to be bishop of Carthage. In those early days their uncontrollable zeal foreshadowed the approach of that absolute supremacy which brought kings and emperors to their knees before the chair of St. Peter. They denied the right of the emperors to interfere in Church matters; and they censured the rival bishop for holding communication with the Court.

"Already the Catholic party, in preparation of its commencing atrocities, ominously enquired, 'Is the vengeance of God to be defrauded of its victims?'"[1] It was in this reign that the Church obtained the right to receive bequests in land; and this proved to be one of her most powerful possessions. The gentle persuasions of the power which claimed to hold the keys of heaven and hell, soon had the effect of diverting many a rich estate from the lawful heirs to the Church Corporation; and in time the wealth of the world again poured into Rome as in

[1] *The Intellectual Development of Europe*, vol. i. p. 282.

days of old, producing also the same results as of old. But a mightier ruler had taken possession of the eternal city than ever reigned in Rome in the most powerful days of the empire; and, in consequence, a deeper degree of infamy was reached under the reign of the Popes than under that of any of the emperors. The Protestant writers delight in attributing the unspeakably infamous lives of the Roman Pontiffs and the high ecclesiastics of the Catholic Church to the influence of the degrading doctrines. But with the same opportunities the Protestants would have been as bad, and so would likewise every other order of men. It was not religion *alone* that degraded them, but a demoralizing creed, coupled with *unbounded wealth and irresponsible power*, the destroyers of human virtue in all except the god-like few who appear at long intervals to guide the destinies of man.

It was customary for the different sects to assume that they were under the special protection of God; and they, in consequence, styled themselves God's elect. We are not told in history the means by which their deity communicated to them the knowledge of his especial favour, as we are in regard to other portions of the Christian religion. But the precise manner in which they particularize the minutest points of doctrine, and their unhesitating faith in the accuracy of the details, lead us to infer that they were under the impression that they had been the recipients of divine inspiration in those matters. God had given up all *personal* intercourse with mankind at this time, probably from disgust at their fallen and degraded condition; so that if he

made any revelation to his elect it must have been of an impersonal character. But as these are mysteries which a layman cannot be expected to understand, it is as well perhaps not to enquire too closely.

The origin of the famous, or rather, to give them their right name, the infamous, Trinitarian disputes was a quarrel between Alexander and Arius, two ecclesiastics who both coveted the bishopric of Alexandria. Arius numbered amongst his followers seven hundred virgins, while Alexander was also supported with a goodly number. The impious and gay Alexandrians caricatured the two holy leaders and their parties on the comic stage, and the city soon assumed a lively aspect. The points in dispute between these two enlightened churchmen had reference to the nature of the relationship between God, the Son, and the Holy Ghost. Arius maintained that in the nature of things the father must be older than the son. Alexander and his followers looked upon this as degrading the son from his godhead, and they denounced Arius and his party as impious blasphemers, for whom hell itself was too good. The son, they agreed, was begotten by the father and the other god, the holy ghost; but they also asserted that he existed before he was begotten, and that he was made out of nothing, and yet that he was not made at all. It is quite impossible to touch on this subject, without writing the greatest nonsense; and even at the present time the Christian Trinity is the most extraordinary jumble of contradictions and absurdities that the addled brain of man could put together—there are

not three gods, but one God, and yet there *are* three gods; three in one, and one in three! They call it a mystery, and well indeed they may! The marvel is that the common sense of this comparatively enlightened age should still tolerate such a gross outrage upon the ordinary understanding of sane mortals. It is not without just apprehension that the Church views the spread of education, the light of which will certainly illumine the darkness in which alone such pitiable intellectual imbecility can find a dwelling-place.

The Trinitarian disputes in Alexandria were a perpetual subject of amusement to the Jews and Pagans, whose mocking derision did not tend to calm the passions of the infuriated Christians. To settle the controversy, Constantine summoned a Council at Nicea, which has since played so great a part in Church history. The result of this Council was the production of the famous Nicene Creed, in which was embodied the sublimest wisdom of the Church. The last clause ran as follows :—

"The Holy Catholic and Apostolic Church anathematizes those who say that there was a time when the Son of God was not: and that before he was begotten he was not, and that he was made out of nothing, or out of another substance or essence, and is created, or changeable, or alterable."

The raging passions that were engendered by this memorable quarrel did not cease until they were quenched in blood by the stern Saracens, who conquered Egypt some three centuries after its outbreak, and silenced for ever the voice of Christian contention in the ancient land. It is said that there was

not a Christian man or woman in all Egypt who did not proceed to settle the nature of the unity of God.

It was the desire of Constantine to make religion a branch of politics, so that he could use the power of the Church for political purposes; and while he lived, ecclesiastical authority was kept in due subordination to the power of the State. But shortly after his death, the Church became sufficiently strong to throw off all restraint, and to assert her entire independence of any earthly power. Athanasius, the bishop of Alexandria, in the time of Constantine, opposed the emperor, and became his personal antagonist in the Arian heresy. Constantius, like his father, pretended to have had a vision, and laid claim to divine inspiration; but as the divine revelation did not happen to accord with the views of the dominant party, it was rejected by them. In the contest, which now ensued between the Church and the State, Athanasius went to Rome, and laid his case before the bishop there. This is important, as being the first act on the part of the Alexandrian bishop implying, in some measure, his subordination to the bishop of Rome.

The Christian Church began now to repudiate her subjection to the laws of the empire, asserting that she was responsible only to God; and that as her bishops held the keys of heaven and eternal life, they were superior to any earthly potentate, whose power could only be exerted over the body. The emperor might kill the corporeal part of man, but that was of no consequence in comparison with the eternal torments of the indestructible soul. Here was a power greater than all the legions in the world.

If a man comes to believe literally in heaven and hell, and persuades himself that a fellow-mortal has the power to send him to either place, no earthly considerations will weigh with him against the wishes of such a master. That the Christians implicitly believed that their bishops possessed this power, and that heaven was their destined portion hereafter, is amply proved by the unflinching, not to say cheerful, manner in which many of them met torture and death. They were in turn the oppressors and the oppressed, and themselves suffered the agonies that they inflicted upon others. If, in its consequences to the believer and the unbeliever alike, any religion ever engendered hatred, strife, bloodshed, and murder, it is the religion which is professed by the followers of Jesus Christ. It is an awful record, not to be equalled by the worst deeds of any other organization of human beings since the world began. If it is a just and wise conclusion that institutions should be judged by their fruits, what shall we say of the Christian religion?

Constantine had been playing with Christianity during the whole of his reign, but as he was approaching his end he prepared for baptism, "in the hope that the sins of a long and evil life might be washed away." He had consolidated the power of the Church, and converted it from a more or less heterogeneous mass into an organized body. And though the rivalry between the bishops continued for a long time after his death, supremacy set steadily towards Rome. He had succeeded in his object of making the Christian religion, or rather the Church, the great object of men's ambition. The ecclesiastical appoint-

ments became as much sought after as the high military positions had been a few years previously. Many of the emperor's personal friends were Churchmen; they filled the court, kept up large establishments themselves, were honoured guests in patrician and wealthy families, and throughout the social grades were looked upon as men of authority and position. Gradually the great overshadowing power of the Church subdued and absorbed the intellectual activity of the empire; and little by little the aspirations for knowledge gave way to the spirit of religion, backed by the power and wealth of the State. The Christian's knowledge was in his Bible; henceforth *that was to be the criterion of truth*, as interpreted from time to time by those who happened to be in authority. And the time soon came when it was death to a person to be found in possession of any book or writing of any description whatsoever, which contradicted, or seemed in the eye of the Church to contradict, a single word of the Scriptures.

CHAPTER XI.

FROM CONSTANTINE TO THE CRUSADES.

The removal of the capital to Constantinople was the indirect cause of the ultimate supremacy of the bishop of Rome. While the emperor and his court resided in the city, the bishop could not be otherwise than a very subordinate personage ; and all his actions were under the jealous eyes of the emperor, and those of the great men who surrounded him. With the Court and all its prestige at Constantinople the bishop had a free hand ; and, as events showed, he made the most of it. It is beside our purpose to enter into the fights that disturbed the peace of Rome for a long time ; they would fill volumes. The following, from Riddle's *History of the Papacy*, may be taken as a fair sample. It occurred on the occasion of the assumption of the title of Pontiff by St. Damasus, who was opposed by Ursinus (366–384).

"After some deadly conflicts between the followers of the two rivals, Ursinus was banished from the city ; and a similar sentence was about to be carried into effect against seven presbyters of his party when the people interfered, and lodged them for safety in one of the churches. But even here they found no shelter from the fury of their opponents. Armed with fire and sword, Damasus, with some of his adherents, both of the clergy and of the laity,

proceeded to the place of refuge, and left no less than a hundred and sixty of their adversaries dead within the sacred precincts."

I wish particularly to fix the reader's attention upon the consideration of the effect which such a state of perpetual tumult, contention, and bloodshed (which was almost the normal condition of the chief towns of Christendom at this and subsequent periods) would be likely, nay, would be certain, to have upon progress and civilization, upon the study and cultivation of the arts and sciences of life. It is a law of our nature that the social atmosphere of a community is determined by the prevailing influences in that community. If peace and quiet reign, the mind will be predisposed to reflection and study, and *vice versâ*. No community could receive, enlarge, and transmit the accumulations of preceding ages, under such social conditions as those which were brought about by the incessant unrest and aggressive proceedings of the powerful, dominant organizations, which filled every town and village that was subject to the authority of the emperor. Such a state of social turmoil would not only render the fruits of past labour barren and useless, but it would inevitably sap the intellectual energies, and bring about a condition of universal deterioration. The social ruin which overtook Christendom under Papal domination would still have been accomplished, without the aid even of the rack, thumbscrew and stake; though perhaps it might not have been so complete. There was no contending against the weapons of torture and death, which the Church used so mercilessly. Against the former influence only, possibly early

civilization might have survived to some extent, and impressed itself upon the rising nations of Europe.

It may appear to some readers that I have too deeply coloured the contentious attitude of the early Christians, bearing in mind their doctrine of passive obedience. To those who believe in their peaceful, inoffensive, meek and lowly conduct in the third century, I would recommend the consideration of some of the clauses of their creed, as established by the first great Council, held in 325 A.D. Three hundred bishops assembled at this Council, and before it broke up they unanimously decreed the penalty of death for heresy; and when Constantine ratified the Nicene Creed he issued an edict in which this sentence appears: "This also I enjoin, that if any one shall be found to have concealed any writing composed by Arius, and shall not immediately bring it and consume it in the fire, death shall be his punishment: for as soon as ever he is taken in this crime he shall suffer capital punishment." So that at this early period it was not only death to believe otherwise than as you were directed by the Church, but for concealing the writings even of a so-called heretic capital punishment was the penalty. And when we consider that this same heretic was recalled into favour some ten years after his banishment, we are at liberty to form our own opinion as to the fluctuating character of the creed, for non-compliance with which a person was executed.

Now I venture to believe that it is, humanly speaking, quite an impossibility that any body of men who could deliberately assign the death punishment to a fellow creature for differing from them on

a doctrinal point of faith, could be animated with those feelings of gentleness and kindness which are claimed for the early Christians. Long before men could have arrived at such a depth of inhumanity, the character must have been undergoing a lengthy preparation ; which would be altogether inconsistent with the cultivation of meekness and passive resistance. The truth is, we may be sure, from the inalienable principles of human nature, that the gentle conduct of the early Christians was a measure of their weakness ; as their ferocity in after time was a measure of their strength. It need not, however, be a debatable point ; history furnishes ample information on the subject.

In the third reign after Constantine the Great, Julian occupied the throne. It was in his reign that that precious scoundrel St. George, the patron saint of England, lived. Emerson, in his *English Traits*, says : "George of Cappadocia, born at Epiphania, in Cilicia, was a low parasite, who got a lucrative contract to supply the army with bacon. A rogue and informer, he got rich, and was forced to run from justice. He saved his money, embraced Arianism, collected a library, and got promoted by a faction to the episcopal throne of Alexandria. When Julian came, A.D. 361, George was dragged to prison ; the prison was burst open by the mob, and George was lynched as he deserved. And this precious knave became, in good time, Saint George of England, patron of chivalry, emblem of victory and civility, and the pride of the best blood of the modern world." Gibbon is equally severe on England's darling St. George.

The character of Julian is admitted by all, even by his enemies, to have been noble, generous, just, and elevated. In his early years, and while imprisoned by Constantius, he was compelled to conform to the Christian religion; but being a man of a singularly powerful and well-informed understanding, he soon revolted against the doctrines of Christianity. He forbade all persecution, while trying to restore the religion of the Pagans, and forgave a number of Christians who had conspired against his life. He is termed by the Christians, "Julian the Apostate"; but, as Dean Milman admits, he was no Apostate, for as soon as he had attained the age of reason he declared his disbelief in Christianity. His only weapons were logic and reason, as opposed to the Christian's bludgeons—they were forbidden to use the sword, so used large clubs instead, with which they beat out the brains of one another; as in after years they burnt men because it was against their creed to shed blood.

Julian tried to stem the tide of Christian progress; but he might as well have tried to force back the advancing waves of the ocean. It is said that now religion became lost in theology, and that theology had gone mad; but if theology is not another name for religion, what is it? Step by step religion had been developing along the natural lines of its growth, and at every stage the result was the unavoidable outcome of all the preceding stages. Human nature being what it was, the various developments of Christianity at different periods were the inevitable consequences of Christian doctrine. The more indefinite the foundation of a creed, and the greater

the call upon its followers to diverge from the more elementary experiences of human life, the greater will be the variety of interpretations over which the mind will range in its efforts to formulate that creed. And I think it will be admitted that the Christian religion is the greatest example on record, both in regard to the extra-human character of its basis, and the resultant variety and wide range of interpretation in which its followers have indulged during its long history. Not only were the hundreds of sects into which Christianity was split up at the end of the third century inevitable, but the faggot and stake in due time were bound to follow the cross, as its natural sequence. If we justify the existence of Christianity to-day, it can only be by a further interpretation so wide that no Christian Church will recognise or acknowledge it. And, as a matter of fact, numbers of men and women now call themselves Christians who have eliminated from *their* Christianity nearly every article of faith by which it has hitherto been known.

A student of Greek philosophy, the disciple of Plato and Aristotle, Julian early recognised the paralysing influence that the Christian religion was exerting over learning, and therefore over the progress and welfare of man. Few men were so well able to judge of the respective merits of the two great divisions of religious belief into which mankind was divided at that time, as he who had imbibed in the schools of Athens the spirit of Greek enlightenment, and whose mind was informed with the culture of that highly intellectual and civilized people. The nobility and greatness of his character

was such that gross impertinence and personal insult could not provoke the master of the world to retaliation. I know of no such forbearance in history as he exercised on many occasions. "While he was employed in sacrifice, he was interrupted by the remonstrances of Maris, the Arian bishop of Chalcedon, to whom age and blindness had added courage. 'Peace,' said the emperor, 'blind old man, thy Galilean God will not restore thine eyesight.' 'I thank my God,' answered Maris, 'for my blindness, which spares me the pain of beholding an apostate like thee.' Julian calmly proceeded in his sacrifice."[1]

Contrast the conduct of this pagan emperor with that of the three preceding Christian emperors. What Pagan would have dared to intrude upon the presence of either of these men for any purpose whatever, let alone to use the language of personal insult? The greatness of his conduct is unparalleled almost in the history of the world.

Christian writers have striven very hard to reduce his great merits, by attributing to him a belief in the most miserable of the Pagan superstitions; while unconsciously at times making admissions here and there, which, when taken together, form almost a perfect character. Milman says: "Julian himself is perhaps the best, because the plainest and most perspicuous, writer of his time." To be "the best writer of his time" is no small praise to bestow on any man; and in itself would go far to constitute him, if not *the* greatest, at least one of the greatest, men of his time. And that Julian was in every sense a great man, contemporary history proves.

[1] Milman, *History of Christianity*, vol. iii. p. 5. *Ibid.*, p. 3.

Against the writings of subsequent ages, respecting the nature and tendency of Julian's conduct, I would oppose that of men of his own time. The following, though somewhat exaggerated in style, is significant in many ways: "Thou, then, I say, O mightiest Emperor, hast restored to the public the expelled and banished virtues, thou hast rekindled the study of letters, thou hast not only delivered from her trial philosophy, suspected heretofore and deprived of her honour, and even arraigned as a criminal, but hast clothed her in purple, crowned her with jewels, and seated her on the imperial throne. We may look on the heavens and contemplate the stars with fearless gaze." From this we learn that the study of letters, philosophy and astronomy had suffered severely from the triumphs of Christianity. Writers whose works live, reflect the spirit and conditions of their age; and we know from many sources that the above quotation only too truly signified the decay of learning, under the three Christian emperors who preceded Julian. The Christians were extremely illiterate, and hated learning, as all vulgar minds hate everything that is superior to their understanding. History may be defied to produce any instances of the Christians manifesting, at this period, the slightest acquaintance with learning of any description; while contemporary works teem with proofs of their bitter hostility to everything that savoured of refinement and culture. The coarse, vulgar, illiterate men who held the appointments of bishops, condemned every kind of study as an impious prying into the secrets of god; asserting that he had given to man, in the Bible, all the knowledge he intended

him to possess ; and that, while belief in the scriptures was necessary to his salvation, all other kinds of study would certainly lead to his eternal damnation in hell fire. The language is theirs, not mine.

Profoundly ignorant of Nature, and the magnitude of the Universe, they still believed that Jesus was a little way above them, and would shortly fulfil his promise, and reappear in all the majesty and glory of omnipotence, when the earth would be dissolved, and the human race would depart a short distance hence, to their respective places of heaven and hell. Every Christian at this, and at preceding times, lived in daily expectation of the great consummation; and from the time of Jesus until the present day fanatics have never ceased to prophesy the near approach of the end of *all* things ; as though the destruction of this less than grain of sand that we inhabit carried with it the annihilation of the inconceivably stupendous Universe, with its untold millions of worlds and countless myriads of sentient existences!

The study of science and Nature! Why to their untaught, dark minds there was no Nature to speak of ; everything was so simple and plain that there was nothing to study. The Bible contained all knowledge, and the fathers of the Church became in consequence the depositaries of all that it was possible or lawful to know. When one thinks of the benighted ravings of these self-sufficient teachers, superseding the grand and sublime achievements of Greek intellect, it is difficult to write with that sobriety of language becoming the subject of historical narrative. We express the natural sentiments

of indignation at the destruction of the beautiful cities of Greece and Rome by the barbarians; but their havoc was for the most part reparable by industry, and had little or no effect upon social progress. The repression and destruction of the fruits of centuries of intellectual toil is of far more serious consequence to man, as we know to our loss and sorrow.

To so great and learned a man as Julian, the degeneracy of the times, and the contrast between the ignorance of the Christians and the enlightenment of the Pagan sages, would be obvious and unmistakable. No man knew better than he the consequences to future generations of universal Christian domination. The results were already but too plainly visible in the dark cloud that was overshadowing the once joyous life, and paralysing intellectual activity. Surely it is only a reasonable conclusion to come to, that such a man as Julian would be fully conscious of this, and would do all in his power to avert the awful destiny that awaited his country, and which, in spite of all his noble efforts, was not even retarded in its onward course to darkness and stagnation. From the known skepticism of the cultured minds of the Pagans of those times, I do not believe that Julian's powerful intellect was infected with the gross absurdities of the popular belief. His encouragement of Paganism was intended as a counterpoise to Christianity; and he probably thought that the spread of the light of reason and knowledge would ultimately kill the superstition; and as his subjects were fast outgrowing the old faith, the reign of philosophy

and science was about to be inaugurated among the people. He was passionately attached to the speculations of Plato and the investigations of Aristotle, and to me it seems beyond doubt that he looked forward to a time when the knowledge of the Greeks should become the guiding influence in progressive civilization. To depict such a man as examining the entrails of a goose (as the Christians do), in the hope of finding an infallible guide to his conduct, or the means of foretelling future events, is the stupidest and grossest of libels on his acknowledged intellectual greatness.

What is the outcome, so far, of Christianity, and its influence upon the world? Julian reigned two years; and though he exerted all the power of his great and influential position to stop the advance of the Christian faith, he was unable to make any impression upon it. He strictly forbade all persecution, and worked hard with tongue and pen to effect his purpose. Mr. Robert Buchanan in his brave poem, "The Wandering Jew," makes Julian say that by setting his foot upon the viper—Christianity—he could have crushed the life out of it. But I do not believe that the strongest measures could at this time have extirpated the rapidly-spreading religion. It had taken too deep and widespread a hold upon the people. Possibly, if Julian's reign had been a long one, he might have been more successful, as he was gradually obtaining the co-operation of the educated classes, and some of the best intellects of Greece.

In the intellectual strife of the schools the question, What is truth? had long been debated, but no satis-

factory answer had been forthcoming. Truth, to the Greek mind was what it is to us to-day—a dream of the soul, a phantom hovering around the things of sense and the subjects of thought, a vanishing semblance of the reality which we vainly strive to determine and fix in time and space, but which eludes our grasp by becoming engulfed in the Infinite. Christianity now, for the first time, presented to the world a criterion of truth which, with the aid of the Church, was intelligible to the meanest understanding. *That criterion of truth was the Bible.* And herein henceforth consisted the power of Christianity. The Bible in future was to be the standard of truth, and the ultimate appeal on all questions of knowledge. And everything which could not be justified by reference to this criterion was condemned as pernicious and unlawful. A crusade was begun throughout Christendom against writings of every description; and books which could be construed into a contradiction of any part—even of a single sentence—of the Bible, were condemned to be burnt. In time the awful Inquisition was established; and, in addition to the destruction of books and manuscripts which contradicted holy writ, every person in whose possession such publications were found was seized by the officials of the Inquisition, and subjected to the most horrible tortures, frequently resulting in death. The victims in thousands, after having been crushed and maimed in those awful infernal machines, were fixed to the stake, and burnt alive, to the glory of the Christian's god.

And now for many centuries the earth, indeed, became an awful home for suffering humanity. The

popes obtained supreme power throughout Christendom; emperors and kings became their subjects, and trembled at the thunders of the Church and the threats of excommunication. The subjects of every monarch owed allegiance first to the Pope, and dared not disobey a papal injunction, even though it enjoined disloyalty and treason to their lawful sovereign. Every monarch held his crown by favour of the Pope, and his ecclesiastics filled all the most important political positions in the world. No man could call his soul his own, and no man or woman was safe from the accusation of heresy. Under the constant pressure of terror virtue fled from the human heart, and every feeling of love and tenderness was crushed and destroyed. Parents informed against their children, children against their parents; and the holy Church completed their pious deeds of inhumanity by appointing them to assist at the torture and burning of one another. I need not dwell upon the well-known and awful deeds of the Church during the middle ages. No purpose would be served; and the feelings are shocked almost beyond endurance at the bare recital of those deeds.

The terror of the Church became so great that people were careful to scrutinize every book in their possession, to see that it did not contain anything which contradicted the scriptures; and great numbers burnt their libraries rather than run the risk of harbouring, however innocently, "heretical" writings. Under such a widespread, vigilant and destructive influence it is no wonder that learning died out, and civilization decayed. To have arrested

such a natural and inevitable backward course would have required a series of miracles which would have thrown into the shade even those related of Christianity itself. Keen supervision was exercised over all the schools of Europe, and great care was taken to crush the aspiring intellect, or to utilise it, wherever found, in the interests of the Church. Occasionally a monk might be found in his solitary cell poring over a cherished volume of one of the ancients. The human intellect can never be entirely crushed ; here and there it will shine forth even in the darkest ages, and brave all dangers and persecutions. Every age has its Brunos, who calmly walk to the stake, and vindicate by their heroic death the inherent grandeur and irrepressible character of the human mind.

It is quite common to read in our histories that during the middle ages the lamp of learning was kept alight by the Church ; and we are gravely told that, had it not been for the few ecclesiastics and solitary monks above referred to, all learning would have died out in Europe. We must presume that those historians were quite unaware of the fact that the suppression of all learning, in the first instance, was due to the religous power, of which these solitary students formed a part, and that the same power was answerable for the continuation of the darkness. To credit the Church with having prevented the entire submersion of civilization, by having kept alive a ray of light and learning here and there, is perhaps the most ironical compliment that history ever paid to any institution. "The Church had cursed the human intellect by cursing the doubts

that are the necessary consequence of its exercise. She had cursed even the moral faculty by asserting the guilt of honest error."[1]

Towards the end of the fourth century Theodosius the Great established *Inquisitors of Faith*, and certain laws were passed whereby the performance of specified Pagan rites subjected the Pagans to the penalty of death. "Those who presumed to celebrate Easter on the same day as the Jews he condemned to death. The Greek language was now ceasing to be known in the West, and true learning was becoming extinct."[2] Referring to this period, Gibbon says: "The conflict and fermentation of so many opposite interests and tempers inflamed the passions of the bishops: and their ruling passions were the love of gold, and the love of dispute."[3] The Catholics, as the orthodox party was called, were now quite strong enough to defy the power of the state; and they assumed the control of temporal as well as of spiritual matters. The Catholic Church was now practically the supreme power in the world; and the emperors were little better than her servants. The sword and wealth of the State were at her disposal, and she used both without stint or mercy.

Early in the fifth century the famous and beautiful Hypatia, daughter of Theon, the mathematician, lectured in Alexandria on the abstruse subjects of Greek philosophy. She was in every way a most admirable woman, and possessed of the virtues and learning of the early Greeks. The episcopal throne

[1] Lecky, *Rationalism in Europe*, vol. i. p. 49.
[2] *Conflict between Religion and Science*, p. 54.
[3] *Decline and Fall of the Roman Empire*, vol. ii. p. 523.

of Alexandria was occupied at this time by a monster —unusually depraved even for that depraved age— named Cyril. Among the many unnatural abortions which Christianity had produced, must be named the monks and nuns who overran Egypt at this period. Alexandria was full of them ; and their dark superstitions and ferocious natures made them at all times ready for the commission of the worst crimes. Hypatia's learning had roused the bigotry and hatred of Cyril, and by his instructions a mob of howling monks waylaid her. "On a fatal day, in the holy season of Lent, Hypatia was torn from her chariot, stripped naked, dragged to the church, and inhumanly butchered by the hands of Peter the Reader and a troop of savage and merciless fanatics; her flesh was scraped from her bones with sharp oyster shells, and the quivering limbs were delivered to the flames."[1] We shall search history in vain for a deed which can be compared with this. And whatever may be said of it the fact remains that it was but the natural fruit of Christian teaching. If such a deed had been perpetrated by the followers of any other religion, what would Christians have to say with regard to it? They would wrap themselves in the superior holiness and sanctity of their own creed, and thank their god that they were Christians.

"So ended Greek philosophy in Alexandria; so came to an untimely close the learning that the Ptolemies had done so much to promote. The 'Daughter Library,' that of the Serapion, had been

[1] *Decline and Fall of the Roman Empire*, vol. iv. p. 341.

dispersed. The fate of Hypatia was a warning to all who would cultivate profane knowledge. Henceforth there was to be no freedom for human thought. Every one must think as the ecclesiastical authority ordered him A.D. 414. In Athens itself philosophy awaited its doom. Justinian at length prohibited its teaching, and caused all its schools in that city to be closed." [1]

The learning which had been cultivated in Athens, Alexandria, and Rome had found its way into all the chief cities of Europe; and it would undoubtedly have grown, and have guided the civilization of the European nations. But in all those cities the influence of Christianity became all-powerful, and, as we have seen, its power was exerted to extirpate every kind of true learning, and in its place the Bible was substituted as containing the sum of all possible knowledge. The early Europeans were endowed with a fine physique, and noble qualities of heart and mind; and would soon have imbibed a love for the arts and sciences, and the social institutions of Greece and Rome. Let any one regard the broad-browed, fearless-eyed men who more than once asserted their love of liberty by teaching imperial, aggressive Rome a lesson which she never forgot; and say if they would not have been, under the civilizing influences of Greek culture, fitting recipients of all that was best in the social state of the times.

Gibbon bears testimony to the appreciative intelligence of the so-called barbarian:

[1] *Conflict between Religion and Science*, p. 55.

"Our fancy may create, or adopt, a pleasing romance, that the Goths and Vandals rallied from Scandinavia, urgent to avenge the flight of Odin, to break the chains, and to chastise the oppressors of mankind; that they wished to burn the records of classic literature, and to found their national architecture in the broken members of the Tuscan and Corinthian orders. But in simple truth, the northern conquerors were neither sufficiently savage, nor sufficiently refined, to entertain such aspiring ideas of destruction and revenge. . . . And, though incapable of emulating, they were more inclined to admire than to abolish, the arts and studies of a brighter period."[1]

They were simple-hearted in all matters appertaining to religion, and had no strong views of their own apart from their princes and chiefs. To convert a whole clan, it was frequently only necessary to convert the head and his family; the rest followed as a matter of course. We may believe, for many reasons, that the conversion of whole nations to Christianity was effected without the slightest intervention of either thought or feeling on the part of the converts. It would be an outrage on the manly character of the northern conquerors to believe that they would seriously embrace a religion which taught that the whole of their ancestors were in hell, if it involved any consideration of the intelligence or searching of the heart. Those men were rough and warlike, but they were brave and loyal to one another, and were not destitute of the generous virtues of love and friendship. The Christian religion enjoined upon them the belief that their parents and friends, and all who had died without the saving grace of Christianity, were suffering the most cruel torments in hell fire, where they would burn for ever and ever

[1] *Roman Empire*, vol. iv. p. 417.

without the slightest alleviation of their sufferings. Radbod, one of their kings, taking the matter to heart more seriously than his followers, drew back his foot after he had entered the baptismal font, and refused to accept a religion which taught such a horrible doctrine. Towards the end of the *Decline and Fall of the Roman Empire* Gibbon gives an account of the conversion to Christianity of the northern nations; and the wholesale manner in which it was invariably effected by the kings and rulers is positive proof that it was purely a matter of form.

Everybody has heard the tale of Pope Gregory the Great, in the sixth century, being struck with the noble bearing of the Saxon boys that were offered for sale as slaves in the market-place at Rome, and sending Augustine and forty monks to Britain to convert the heathens. In less than two years after they landed Augustine wrote that he had baptized the King of Kent with *ten thousand of his Anglo-Saxon subjects!* and that they were armed only with spiritual and supernatural powers. The powers with which they were armed were really presents and bribes to the king; and the conversion of the ten thousand subjects simply meant the acceptance of baptism by the king, in return for a certain sum of money and other presents. And in this way Christianity became the religion of Britain. Profoundly politic in all her dealings, after power and wealth had been attained, the Church in all cases directed her attention to the rulers of peoples, whom her large revenues enabled her to convert without much spiritual persuasion. The rest was easy; the people followed the example of their chief. Christianity, or any other religion,

having once become the faith of a nation, is imbibed by succeeding generations with their mother's milk, and becomes interwoven with the life of the people. It is the most indisputable of all historical facts that religions are handed down from sire to son, without the necessity, on the part of the latter, of submitting their doctrines to the examination of reason. With the great majority of people the teachings of childhood—on the emotional side of our nature—last to the end of life. It is with a full knowledge of this fact that the dogmatists of all persuasions, but more especially the Roman Catholic, never fail to inculcate the great duty on the part of the parents of bringing up their children in strictly "religious principles." They know that it is only in the tender years, when the mind is, like wax, prepared to receive any impression we choose to imprint upon it, that their teaching will have effect. Let the intelligence develop and reason exert her power, and the opportunity is lost for ever. In this respect the Church is much wiser and more vigilant than her opponents; the latter wait until years of discretion are reached and they can appeal to what they vainly think is the reason, as though men or women were ever really guided by reason in such matters; the former knows better, and asks only to have the moulding and shaping of the young emotions; the reason may look after itself, or be left to the guidance of her enemies, for all the Church cares.

Robert Owen, who knew the young mind well, said: "Neglect a child in its tender years and the devil will have got there before you."

To my contention that the dark ages were due to

the destruction of learning by the Christians, Gibbon bears emphatic testimony in the following passage:—

"The favourites of Heaven were accustomed to cure inveterate diseases with a touch, a word, or a distant message; and to expel the most obstinate demon from the souls or bodies which they possessed. They familiarly accosted or imperiously commanded the lions and serpents of the desert; infused vegetation into a sapless trunk; suspended iron on the surface of the water; passed the Nile on the back of a crocodile, and refreshed themselves in a fiery furnace. These extravagant tales, which display the fiction, without the genius, of poetry, have seriously affected the reason, the faith and the morals of the Christians. Their credulity debased and vitiated the faculties of the mind; they corrupted the evidence of history, and superstition gradually extinguished the hostile light of philosophy and science. Every mode of religious worship which had been practised by the saints, every mysterious doctrine which they believed, was fortified by the sanction of divine revelation. And all the manly virtues were oppressed by the servile and pusillanimous reign of the monks. If it be possible to measure the interval between the philosophic writings of Cicero and the sacred legend of Theodoret, between the character of Cato and that of Simeon, we may appreciate the memorable revolution which was accomplished in the Roman Empire within a period of five hundred years.[1]

This is a very remarkable passage, the truth and justice of which history proves beyond a shadow of doubt. This revolution, effected by Christianity, from learning to ignorance, from light to darkness, from civilization to barbarism, within a period of five centuries from its commencement, while it is evidence of the great power it had acquired, it is at the same time an unanswerable proof of its baneful influence upon the happiness, character, and destinies of mankind. It would be an easy matter to augment

[1] *Decline and Fall of the Roman Empire*, vol. iii. p. 358.

the evidence from a hundred sources in proof of my contention; but I do not think further evidence could add to the weight of testimony already supplied from the course of history. No writer with any regard for truth can deal with the first five centuries without admitting the decay of learning and civilization, and the growing power of the Church. During that period Christianity was mainly concerned in manufacturing the most effective of all her weapons, viz. the infallibility of the Bible as a criterion of truth.

With the Bible on the one hand, and the instruments of torture and the Stake on the other, no wonder that the intellect was paralysed, and civilization at a standstill. For a thousand years and more the mind of Europe lay prostrate at the feet of the Pope, until at last the long-suppressed force found voice and action, as it was bound to do sooner or later. During all that dreary time there is very little to record; generations came and went without producing much change for the better; and Europe may be said to have remained practically in a stationary and stagnant condition. There was little learning outside the Church, which exercised a jealous control over the teaching in the schools, and the private studies of individuals. The studies of the Church consisted almost entirely of theological subjects, and were as barren of any fruitful results as they were interminable and incomprehensible. Words were everything, facts counted for nothing. There was no attempt to study the laws of Nature. The Bible was the criterion of truth, and contained all the knowledge that God intended to impart to man; everything, therefore, was referred to the Bible for explanation, wherever

explanation was deemed necessary or expedient. If the consequences had not been so serious, it would afford amusement to read the explanations of natural phenomena given by the writers and fathers of the Church. The most absurd nonsense it is possible to imagine is gravely, and with an air of infallible wisdom, set forth in hundreds and thousands of ponderous volumes. It is no excuse for them to say that they wrote in a pre-scientific age. They were the inheritors of the science and learning of the Greeks and Romans, or might have been; but they suppressed and killed the knowledge of previous ages, and set up their own ignorance in lieu thereof. They deserve to be branded by posterity in the strongest terms as the arrogant, wilful destroyers of the inestimable fruits of the labours of the greatest minds the world had produced.

St. Augustine is, perhaps, the greatest authority in the Church. For many centuries nearly all theological and "scientific" disputes were referred to his writings for settlement. As his authority was greater than that of any other Saint or Father, so has he done more than any other writer in placing theology in a position antagonistic to science. I can give only a few samples of the "learning" which superseded the philosophy and science of Greece and Rome. Augustine's unanswerable arguments against the rotundity of the earth were, that those on the other side could not see the Lord on the Day of judgment descending through the air; and that no such race is recorded by Scripture among the descendants of Adam. He asks how people can be so ignorant as to think that men can walk with their heads down-

wards without falling away from the earth, as they must do if there were such a place as the antipodes. The Saint waxes wroth over the folly of such unheard-of perversity. Angels, it was asserted, moved the stars, and carried up water from the sea, which they sent down again as rain. Physicians were stigmatized as atheists for presuming to think that they could cure disease, which could only be effected by prayer at the shrines of saints, and before the mouldering bones of holy men and relics. Islands were peopled by "spontaneous generation." A work on "Christian Topography," written for the purpose of refuting the heretical notions of the globular form of the earth, and which may be taken as a sample of the knowledge of the Christians in the sixth century, contains, among other marvellous scientific expositions, the following:—

"That the earth is a quadrangular plain extending four hundred days' journey east and west, and exactly half as much north and south; that it is enclosed by mountains, on which the sky rests; that one on the north side, larger than the other, by intercepting the rays of the sun produces night; and that the plane of the earth is not set exactly horizontally, but with a little inclination from the north: hence the Euphrates, Tigris, and other rivers running southward are rapid; but the Nile, *having to run up-hill, has necessarily a very slow current!*"

It would answer no purpose to dwell at greater length upon the ignorance of Christendom in the middle ages. It is a subject that can be studied in every history, and is one about which there is no doubt.

It was not altogether the preaching of Luther that released the mind of Europe from the bonds of the Catholic Church; he was but a factor—a prominent one, no doubt—in the great social movement which eventually led to the destruction of papal supremacy; and enabled men to breathe a freer intellectual atmosphere. Luther was as narrow, intolerant, and bigoted in his way as the Pope himself; and had the times not passed away for religious autocracy, he would have established a little popedom among his followers, with himself as pope. His writings show that he would have had no mercy for those who differed from him on religious dogmas. The burning of Servetus by Calvin and his party of reformers, is ample proof of what they would have been capable of doing had they possessed the power. That hideous and abominable tragedy was approved of by Melanchthon, Bullinger, and other leading reformers of the time.

The secession from the Roman Catholic Church had been long in preparation throughout Christendom. Kings occasionally had chafed under the autocratic domination of the popes; and open ruptures between the spiritual and temporal powers were not of infrequent occurrence, from which the popes, however, invariably emerged the victors. Every such contest enabled them to rivet more firmly the ecclesiastical chains of servitude around the necks of kings and peoples alike, until the pope virtually became the ruler of Europe. But however absolute the papal authority may have become, it was not possible to preserve an uninterrupted adjustment of the kingly and the papal power in every country.

Pope Gregory VII. compelled King Henry of Germany, in the winter of 1077, to stand for three days, clad in a thin white raiment, before his palace gates without food, supplicating the Pope's forgiveness! This was not, however, before Henry had measured his strength with the Pope. His submission was not due to his own religious fears, but to the power which the Pope possessed of compassing his utter ruin. In order to make it clear that the Pope was supreme in Christendom, Gregory summoned a Council in 1076, and laid it down, "That the Roman Pontiff can alone be called universal; that he alone has the right to depose bishops; that his legates have a right to preside over all bishops in a general council; that he can depose absent prelates; that he alone has a right to use imperial ornaments; that princes are bound to kiss his feet, and his only; that he has a right to depose emperors; that no synod or council summoned without his commission can be called general; that no book can be called canonical without his authority; that his sentence can be annulled by none, but that he may annul the decrees of all; that the Roman Church has been, is, and will continue to be, infallible; that whoever dissents from it ceases to be a Catholic Christian; and that subjects may be absolved from their allegiance to wicked princes."

It would be difficult to form a resolution asserting more absolute power than the Pope claimed in this constitution.

The quarrel again breaking out between King Henry and Gregory, the latter summoned to his aid his Norman allies, and within a short time Rome

was once again in ruins: streets, palaces, churches, were reduced to a heap of smoking ashes; men, women, and children were massacred in thousands; matrons, young women, and nuns were violated, and then slaughtered. It was an awful scene, this home of the "Vicar of Christ."

CHAPTER XII.

CRUSADES TO REFORMATION.

The contest between pope and kings had reduced the papal finances ; and there was some fear that if these contentions were allowed to go on, papal supremacy would in the end suffer. Just about this time, an enthusiast, named Peter the Hermit, returned from the Holy Land, and, travelling through the towns of Europe, so inflamed by his harangues the passions of the people by the accounts he gave of Christian sufferings at the hands of the infidel Mahommedans, that a burning desire to rescue Palestine from their possession passed like a wave of wild-fire from one end of Christendom to the other. The Pope saw his opportunity of not only bringing every Christian man and woman under the direct control of the Church, but of also replenishing the papal finances. He accordingly gave his sanction to the formation of an army for the purpose of rescuing the Holy Land from the infidels. It is said that the preaching of Peter roused the people to such a frantic state, that many thousands of men, women, and children assembled from all parts and marched eastward, determined to obtain possession of the holy places. This was the beginning of the famous Crusades. And it was also the beginning of the intellectual movement which led to the Reformation.

The stagnant condition in which Europe had been sunk for many centuries was now, for the first time, disturbed; and barbaric Europe was brought in contact with the high civilization of the Mohammedans. Every man who fought in the Crusades was enlisted under the banner of the Church; and money again flowed into Rome. The religious enthusiasm was intense; and people in every part of Christendom gave all they possessed to the Church. During the continuance of the Crusades, the Church became possessed of a great part of the land of Europe. People gave their estates as freely as they gave their portable wealth. Weak-minded sinners gave immense domains to the Church, in the hope of obtaining salvation for their souls. The Crusades proved a grand haul for the Church, but they also sowed the seed of her dissolution; the crop, however, is not yet fully ripe for the sickle. The Crusades lasted about two hundred years, and during that time the progress of Europe was very rapid indeed, notwithstanding the millions that perished in the rash and fanatical enterprises.

A comparison of Christian Europe at this time with the East is not very flattering to the former. The Europeans had scarcely emerged from a condition of barbarism. Their only clothing was the skins of animals, which they wore until they dropped off from sheer rottenness; round their legs they wore wisps of straw; their hair was unkempt, and their bodies unwashed. Their houses were merely mud hovels, with no windows or chimneys, and even the castles of the great barons were destitute of anything approaching to comfort. It was considered a

mark of luxury to indulge in the spread of rushes over the uneven mud floors. The carriages of the kings were rough waggons drawn by bullocks.

These untaught barbarians had been led to believe that the Mohammedans were a savage race of people, who were in an infinitely worse condition than they themselves were. Their surprise, therefore, can scarcely be imagined when they were brought face to face with the Arabs, and the beautiful cities of the East. It could only be paralleled to-day by hordes of Africans coming for the first time to the capitals of Europe. It is most remarkable that the enthusiasm for the holy war should have been kept alive so long after the disastrous and miserable failure after failure which overtook the hordes that were continually pouring out of Europe. The waysides were said to have been strewn with the bleached bones of the poor foolish crusaders. Millions perished through hunger, pestilence, and the sword. And the sufferings they both endured and inflicted cry to heaven for retribution, if there is any purpose in human life. It is marvellous that the Christians should not have lost heart and faith in a god who permitted them to be slaughtered in their tens of thousands while trying to do honour to him in striving to rescue the holy places from the defilement of the infidel. The atrocities committed by the crusaders are beyond the power of language to describe. "The brains of young children were dashed out against the walls; infants were thrown over the battlements; every woman that could be seized was violated; men were roasted at fires; some were ripped open to see if they had swallowed gold; the Jews were driven into their

synagogues, and there burnt; a massacre of nearly 70,000 persons took place; and the Pope's legate was seen 'partaking in the triumph.' Ecclesiastical vengeance rioted in luxury. The soil was steeped in the blood of men—the air polluted by their burning. From the reek of murdered women, mutilated children and ruined cities, the Inquisition, that infernal institution, arose. . . . Four hundred poor creatures were burnt in one pile. Such atrocious deeds were done by the crusaders as the sun has never before or since shone upon."

Dr. Draper, in his *Intellectual Development of Europe*,[1] gives an admirable descriptive account of the learning, civilization, and refinement of the Arabs at the time of the crusades. It is impossible to over-estimate the influence which contact with such a high state of civilization must have had on the minds of the Europeans. The peasants were no longer content to live the life of slaves, and revolts against the feudal system soon became common. The peasant revolt in Kent and Sussex in 1372, we may fairly infer, was influenced greatly by the spirit engendered by the Crusades. In England the Church was in possession of over one-third of the land; and, in conjunction with the barons, held the peasants in a state of legal bondage, which compelled them to work for their masters on terms established by law. If they ran away, they were brought back and branded on the forehead with a hot iron. Throughout Europe a fermentation of unrest was going on among the labouring classes, while the

[1] *Intellectual Development*, p. 62.

more intellectual were beginning to throw off the heavy yoke that had oppressed them for so long.

We must bear in mind, on the subject of national progress, that a century in the life of a nation corresponds to four or five years only in the life of an individual. In a hundred years, therefore, we must not look for any very great progress in the developmental life of Europe, even in the most favourable ages. For many centuries preceding the crusades, the social forces of Christendom had been suppressed by the influence of the Church, but they had not been annihilated ; they had been gathering greater intensity and power from age to age : and hence the vitality displayed by Europe for so long a period under unexampled misfortunes and defeats. Social forces are but a part of physical force ; they may be held in subjection by superior force, but they cannot be annihilated ; and the time must come when explosion is inevitable, and terrible are the results to suffering humanity. It is almost certain that in the twelfth and thirteenth centuries there would have been some awful upheavals throughout Europe, had the crusades not offered an outlet by turning the tide towards the East. Whether the popes and their advisers saw this or not, we cannot say ; but it is certain that the rulers of Europe to-day are dimly conscious of the explosive nature of social force. The great French Revolution was a lesson which has left its impress upon the minds of rulers ; and they dread, above all things, the accumulation of discontent among the masses of the people.

Mohammedan Spain had been for a long time in a high state of civilization. The Arabs were in pos-

session of the learning and social arts of the Alexandrians. It was chiefiy from Spain that civilization found its way to Germany, Italy, France, and England. Even at that distant time, the Spanish Arabs had, in some respects, reached a stage of progress beyond which Europe has to this day scarcely advanced. We are indebted to them for many of our personal comforts. The society of Cordova was polite and refined; and in addition to imparting their manners and customs to their neighbours, the French, it was from the Arabs that the love of the horse was imbibed by the nobles of Europe. The polite literature of modern Europe had its birth in Spain. The Arabs held that learning is of far more consequence to a man than the belief in any particular form of religion. The number of Arabic words in the English language is an indication, though not a measure, of our obligations to the Saracens. Those people had the intelligence and the genius to profit by the remains of Greek learning which they found in Alexandria when they conquered that famous city. They took means for the spread of education and enlightenment among the people: libraries were established in all their principal towns, the streets of which were well lighted with lamps. It was seven hundred years from this period before a single lamp appeared in the streets of London.

I have not space to describe in detail the condition of Mohammedan civilization; it was probably equal, or nearly so, to that of Europe at the present time, with certain exceptions arising out of recent discoveries and inventions. But I wish to point out

that the Saracens had not, by any means, the same opportunities that the Christians had of benefiting by the learning of the ancient world. The latter came in contact with Greece and Rome many centuries before the former, and at a time when the intellectual activity was at its highest. Notwithstanding this, and though the Mohammedans drew their chief inspiration from Greek and Roman learning, in the eleventh century they were highly civilized, learned and polite, while the Christians were ignorant, barbarous and churlish to the last degree. It cannot be said that the native genius of the Arab was superior to that of the European; subsequent history proved the contrary. The explanation is to be sought in the difference between Christianity and Mohammedanism. While the latter encouraged every kind of learning and freedom of enquiry, the former did its utmost to suppress learning and destroy the powers of the intellect.

Christianity not only kept Europe stationary for a thousand years, but it violently destroyed the learning and civilization of the early times by burning the great masterpieces of Greek and Roman intellect, razing to the ground many of the most beautiful buildings, and forbidding all studies, except the barren subjects of theology and the Bible. It thereby effectually prevented Europeans from participating in the knowledge which would undoubtedly in a very short time have civilized those healthy, vigorous, intelligent races. In proof of this we have but to consider the prodigious strides that were made within a hundred years or so at the Renaissance. A short time previous to this epoch the peoples of

Europe were little in advance of their condition in the fourth or fifth century; and yet as soon as the oppression and mind-destroying power of the Roman Church was removed, the intellect grew with marvellous rapidity, bearing fruit in every department of human inquiry and activity. The main foundations on which the Arabians built up their grand social structure consisted of the meagre remnants of ancient learning which they found in Alexandria and elsewhere, after the Christians had done the greater part of their work of destruction. Surely nothing could better or more forcibly illustrate the respective merits and demerits of the two religions. We may be permitted to express our regret that the Arabian conqueror did not carry out his famous declaration that he would preach the unity of god in the Vatican. He would have cleared out a nest of the most atrocious fiends that ever polluted this fair earth, and have prevented a mass of suffering which is almost beyond the power of conception.

The vast political machine of Rome—religious it no longer was, if indeed it had ever been—became altogether unmanageable in the thirteenth century. To pressure from without was now added defection from within. The mendicant friars, who had been among the most ferocious bigots, had fallen under the influence of the intellectual upheaval, and began to question the pretensions and dogmas of the Church. Many of these men were now professors in the university of Paris and elsewhere, and were among the most enlightened of their times. They revolted against the miserable mass of rascality and

superstition which went under the name of religion; and occupying many of the chairs of theology in the University their influence was more formidable to the Church than that of the swords of heretical and recalcitrant kings had been. A ray of knowledge was more destructive to the Roman Church than a thousand swords; and she never made any pretence of hiding her knowledge of this fact. She was bold, outspoken and uncompromising, being firmly seated, as she thought, on a permanent throne of power.

It required all the vigilance and repressive power of Rome to detect and meet the growing influence of intellectual inquiry in the thirteenth century. A desire to know something of the works of the ancient Greeks was springing up, and the writings of Aristotle formed part of the course of study. Innocent III., A.D. 1215, forbade the study of Aristotle's physical and metaphysical works and their commentaries in all the schools of Paris. Gregory XI., 1231, interdicted those on natural philosophy until they had been purified by the theologians of the Church. Clement IV., in 1265, instructed his legate to exercise a close supervision over the schools, and not to allow the study of any subject which dealt with facts of Nature. Dialectics, or the art of wrangling, was the only subject of study permitted.

The quarrel between Frederick II. of Germany and the popes led to far-reaching consequences to the Papacy. Frederick was educated in Sicily among the enlightened Arabians and Jews, and being a man of exceptional intelligence, he soon drew upon himself the condemnation of Pope

Gregory IX. He passed many wise, liberal and just laws, which were far in advance of his time; and he ventured to rebuke the Church in the face of all Europe, for which act of temerity there was, of course, no forgiveness. He was excommunicated, and his body delivered over to Satan for the good of his soul; his subjects were absolved from their allegiance, but the spell by which the Church had held Europe in bondage was broken. Frederick appealed to all the sovereigns of Christendom, and, although in the end he was defeated, it was not before he had shaken the Papacy to its foundation. The conflict was maintained for thirty years, and the amount of freedom of thought which it engendered gave an impetus to intellectual inquiry which found effectual expression in the Renaissance. Frederick marched an army to Rome, determined to arrest and chastise the aged ruffian, who sat in the chair of St. Peter; but the Pope saved his worthless carcass by flight to France. The revolt spread in all directions, and the Church outdid herself in the atrocious measures which were taken to put it down. Thousands of men and women were confined in the dungeons of the Inquisition, and were subjected to indescribable torture, until they were driven mad by their unendurable sufferings. Hundreds were put into pens made of stakes and filled with straw and burnt alive; and while the flames encircled them, the black fiends of the Christian Church drowned their piteous cries by the prayers which they howled to their god that he would "send their damned souls straight to everlasting hell fire!" Before the Archbishop of Rheims and seventeen

other prelates, on one occasion, one hundred and eighty-three persons of both sexes were burned alive! Christians have told us, on the authority of the Bible, that their god loves the sweet savour of roasting meat. From the Christian portion of his dominions his worshippers did their best to keep him well supplied with the delicious incense of roasted human flesh; for which, let us hope, He will duly reward them, in accordance with their doctrine of an eye for an eye, etc.

The philosophical writings of Averroes, a Mohammedan of Cordova, in the twelfth century, exercised considerable influence over the whole of Europe. He was a commentator of Aristotle and other Greek writers. His maxim was that, "all religions are false, although all are probably useful." There is less doubt now respecting the truth of the former than of the latter clause of this sentence. He believed in the unity of the intellect—that each individual soul was but a part of the universal soul, to which it returned at death. This is a revival of the theory of emanation and absorption. The Christians attributed to Averroes the whole of the infidelity of the times. Some, even of the Christian sects, inclined to his views. Throughout Christendom he had many followers.

He anticipated the modern theory of evolution regarding the soul as a part of universal force. A well-known living writer speaks of his "error" in confounding force with the "psychical principle"; but he is probably nearer the truth than the modern writer, and certainly more philosophical and scientific. To ascribe to man a "psychical principle," or soul

different in *kind* from the intellectual life of animals, while admitting his gradual development through lower forms, necessitates a superimpregnation of soul in man at some period of his development, which, by breaking the continuity and unity of Nature, is incompatible with the theory of evolution. Moreover, it gratuitously introduces an element of greater complexity and uncertainty; for if we suppose that man is distinguished from the lower animals by the possession of a soul, and grant that he and they have a common origin, the question arises, At what particular period, and how did he become possessed of this soul? Admitting the theory of evolution, the special soul idea has no validity, and is not only incapable of proof, but receives absolutely no support from any branch of positive knowledge. There appear to be two conceptions of the soul by which human life can be interpreted in terms of science.

One is the existence of a universal Intelligence, to which the soul returns at death, as the body returns to the matter of sense. This is cognizable, if we rest content with postulating the Universal Intelligence, without attempting in any way to define it. It is evident that this does not help us much to a clearer idea of the soul, and is tantamount, many will contend, to saying that the soul comes from god and goes back to him—everything depending, of course, upon our conception of god. As soon, however, as we attempt to define the Intelligence or God, the soul is no longer interpretable in terms of science.

The other is the conception of an underlying or interfusing Force, one property of which is life, in

all the grades known to us, from unconscious (if it be unconscious) protoplasm up to conscious man. The existence of this property is made manifest to us by certain molecular arrangements, and disappears from the organism and from our view the moment re-arrangements of certain kinds take place, or what we might term a re-distribution of matter and force. The main difference, it seems to me, between these two ideas is that, whereas the first supposes the existence of a part of the universal Intelligence to be located in the human being for the time, and separated from the whole, as a drop of water from the ocean, the second regards the soul not as separated from the universal force but as inseparable from it, and merely one of its qualities, which at death is transformed into some other quality, and disappears from our sense perceptions, as a flame disappears when it is blown out, though nothing has been annihilated. The former is Brahministic, the latter Buddhistic, and both rest on postulates which are incomprehensible, and, in their ultimate analysis, undistinguishable from one another. The modern ideas are more in sympathy with the latter, regarding the concept of force as the limit of inquiry. And this idea has pervaded the great minds of the world from the earliest times to the present. Under both ideas *all* animal life is included.

Averroes was deeply versed in Greek philosophy, and from his time to the appearance of Luther, there was a revival all over Europe of Alexandrian philosophy and science. In this revival, however, Luther himself did not participate; but it prepared men's minds for the reception of his protest against

the pretensions of the Roman Church. A more liberal spirit of enlightenment was abroad. The Arabs had shown Europe, through a variety of channels, the inestimable value of the learning which the early Christians had laboured so assiduously and so successfully to suppress. In the Church herself many learned men arose to whom the Christian religion was a gigantic superstructure of falsehood and fraud; and though no one had the courage or the spirit of self-sacrifice sufficiently strong, to openly expose to the people the true nature of Roman Christianity, and thereby defy the Church, thousands nursed in secret a bitter hatred and contempt of the whole system, which was ready at any moment to manifest itself in outward action. Hence it was that when the brave and fearless Luther appeared and boldly proclaimed to the people from the housetops that *Rome was a fraud*, the spirit of revolt could no longer be kept down. The news of his burning the pope's bull of excommunication in the market-place, before the whole world, was magical in its effects. The enthusiasm which such an unheard-of act of daring courage evoked was immense, and the fierce outburst struck terror to the heart of Rome. For the first time in her long career of despotism she trembled and stayed her hand. Fortunately for the happiness of mankind she never recovered her strength, although she still, for a long time, retained sufficient of her old power to retard progress and inflict a good deal of suffering.

CHAPTER XIII.

MODERN CHRISTIANITY.

The literature of the Reformation is so voluminous that I need not dwell upon the events which were said to be the immediate causes of Luther's protest. There is good ground for believing that he was actuated by other motives than those of a purely religious character. The sale of indulgences for the commission of sins was a source of revenue to the popes and bishops. Every sin could be freely indulged in, and wiped out by a money payment. The popes, perceiving how lucrative the system became, withdrew the power of sale from the bishops and appropriated it entirely to themselves. The mendicant orders were employed as agents, or commercial travellers for the sale of these indulgences; and as it was a money-making business, there was a strong competition among the orders, each boasting of the superior value of its indulgences, owing to its greater influence in the court of heaven, and its more familiar acquaintance with the Virgin Mary and the saints. This traffic, it seems, had been withheld from the order to which Luther belonged, and conferred upon some others, which gave great offence to the German Monk. There are also other motives of a personal character

attributed to Luther, which are said to have influenced him in the course he pursued; but whether they existed, or are only the invention of his enemies, we cannot say. Whatever may have been his motives is of no consequence to us, it is certain that he rebelled against the monstrous pretensions of the Roman Church, and that he took the most effectual means for making known the grounds of his uncompromising attitude.

He was not, as we have seen, the first who protested against Papal pretensions; but the times in which he lived were ripe for the reception of accusations against the Church, and his preaching was listened to by sympathetic audiences. It was not altogether that he exposed flagrant frauds in the Church, which procured for him such widespread sympathy, he touched a chord in the heart of Europe which had long been trembling on the verge of strong vibration, and he released the pent up feeling of ages. It was quite impossible for the Roman Catholic Church to escape much longer attacks from without, followed by some kind of reformation within. The Church had become an intolerable disgrace to the meanest intelligence, an outrage upon the understanding of the age; and when Luther proclaimed and denounced the most glaring abominations, he appealed to minds already predisposed to echo his denunciations. But neither Luther, nor those who worked with him, nor those who followed him, were in any sense *religious* reformers. They were the instigators of the destruction of Catholic frauds, but they did not touch the dogmas of religion; on the contrary, Luther denounced with all the choice

Billingsgate at his command the "pretensions" of science and philosophy.

He was a man of coarse texture and vulgar mind, and quite incapable of appreciating the true elements of moral dignity and social progress. He helped to destroy abuses which could not, in the nature of things, have existed much longer; but he did not hold up to man a higher intellectual light, by which to detect the untruths that were inherent in the dogmas of the Christian religion. This has rarely been done by any members of the Church: it has been the work of that progressive intelligence which is the outcome of scientific knowledge. When we come to consider the achievements of Luther and his party, it is surprising to find how very little they effected. They did not reform religion, they only fixed the eyes of the people upon papal rascality, which had already become a crying scandal.

The fundamental idea which lay at the bottom of the controversy between Luther and the Papacy was as to whether the Bible was to be considered as owing its authority to the Church, or the Church her authority to the Bible. Luther maintained that the Church was subservient to the Bible, and that he had a right to exercise his private judgment in the interpretation of the holy scriptures. But although he denied the right of the Catholic Church to interpret the scriptures for *him*, he jealously and preposterously arrogated to himself the right to interpret them for others; and the Protestant Church was as dogmatic in this, and in all other respects, as the Roman Church had been. Every man was at liberty to read the Bible only as Luther himself read

it; but no one was at liberty to criticise it by the light of science, or to question in any way the truth of a single sentence. The Bible, according to the reformers, was still the criterion of truth, still contained the sum total of human knowledge; and was accepted by all the Protestant Churches as an infallible and sufficient guide for every Christian man. And when we consider that the authority of the Bible was not to be restricted to purely religious or moral subjects, but was to reign supreme, as the only guide in every possible subject of enquiry, I think we are justified in saying that no dogma in the Roman Church could possibly be more destructive than this to every kind of progress. The reformers would tolerate no questioning of the truth of Genesis; and they were as bitterly opposed to science as ever the Catholics had been.

The great service which the Reformers are supposed to have rendered to mankind consisted in opening the Bible to private judgment; but in reality the service, so far as their labours are concerned, has been greatly exaggerated; for, as we have said, the Protestant Church, equally with the Catholic Church, denied the right of private judgment to question the truth of the Bible, no matter how diametrically opposed to science it might be. But the Protestant movement had this effect, which probably neither Luther nor Melanchthon foresaw, it established *another* right than that of Rome to construe the Bible; and it was impossible that they could long prevent that criticism of the Scriptures which science forced upon intellectual men, and which must have taken place even though Luther

had never lived. Luther and Melanchthon both exerted themselves to the utmost to prevent the intrusion of science and philosophy into the Protestant Church.

Luther declared that science was quite unnecessary, and that the scriptures contained all that it was essential or proper to know. He reviled the great thinkers in the coarsest language. The illustrious Greek philosopher, Aristotle, he says, is "truly a devil, a horrid calumniator, a wicked sycophant, a prince of darkness, a real Apollyon, a beast, a most horrid impostor on mankind, one in whom there is scarcely any philosophy, a public and professed liar, a goat, a complete epicure, this twice execrable Aristotle." The schoolmen, he said, were "locusts, caterpillars, frogs, lice." Calvin shared these views. Science owes nothing to the Reformation, or rather, to the Protestant Church. What would be said or thought of any writer who indulged in similar language towards the Church? Indeed, scarcely one even now dare speak the naked truth in the most temperate language, in dealing with the Church, though the time is near at hand when she will be roughly handled.

Those who look upon the Protestant Church as the friend of progress should remember that the Protestants roasted Servetus, a good man, *over a slow fire*, because he had said that he believed the Holy Ghost animates the whole system of Nature like a soul of the world. Let the reader mark the *slow* fire. Can there be any doubt that, if such ferocious bigots had possessed the power, the worst brutalities of papal Rome would have been enacted

over again? Draper asks, "Was there any distinction between this Protestant *auto-da-fe* and the Catholic one of Vanini, who was burnt at Toulouse by the Inquisition in 1629 for his *Dialogues concerning Nature*? I have little doubt in my own mind that if the reformed Church had begun its career a thousand years earlier than it did, it would have run a course very similar to that through which the Latin Church passed. How can we explain the cruel murder of the inoffensive Servetus otherwise than by that spirit of persecution which is inherent in the Christian religion? Protestant writers admit that it was a "blot" on the Reformation; but I say that the "Reformer," Calvin, was a monster as inhuman and devilish as were any of the popes and inquisitors in the worst days of papal supremacy. When the Church shall have ceased to influence society the philosophical historian will tell us that the world has owed little to the so-called Reformation—that mankind has progressed in spite of religion, and that science and the spread of knowledge alone have been the means whereby we have attained to a purer conception of morality, and a fuller and more civilized life. The unfettered, candid historian will tell us, taking a wide comprehensive survey of Christendom, that religion has been a curse so great that the aggregate of all the evils that have afflicted man is small in comparison. This is a truth which is rapidly making its way, in spite of ignorance and vested interests, and which ere long will be proclaimed in every rank of society. It becomes more and more difficult as time goes on, to continue wearing the pious mask of hypocrisy; and the frantic efforts that the

Churches have continually to make to hide the fact, is an indication and a measure of the rapid decay that is going on throughout the entire fabric.

Between the Catholic and the Protestant Churches there was perfect unanimity in their determination to tolerate no science which contradicted the scriptures. The Protestants had not the power to enforce compliance by the methods of the Inquisition, but they resorted to a system which was almost as effective in its way. Every person who was suspected of entertaining doubts about the Bible was put under a social ban ; and no Protestant would hold any communication with him until he had purged himself of his heresy. When the Protestants became numerous throughout Europe, we can understand what a power this would be in the hands of the Church. It is a weapon which she has always used to the full extent of her power, and which is still potent with the intellectually unwashed portion of the great middle classes.

The Roman Church was simply a gigantic falsehood from foundation to pinnacle—a mass of devilry upon which the world now looks back with wonderment and horror, and which none would more willingly forget and bury in oblivion than the Christian Churches of to-day. But we must not forget that Rome was not the birthplace of the system : it was but an offshoot of the Byzantine ecclesiastical system, which, from its very nature, was destined to culminate in the atrocious Papacy, whether in Rome or in Constantinople. Protestants forget this, and in their hatred of Roman Catholicism, and perversion of the facts of history, they make this branch of

Christian teaching answerable for all the evils that Christianity has wrought. Between the fifth and fifteenth centuries they tell us that Christianity was dead; but, unfortunately, that was just the time when it was most alive and rampant. The greatest of modern church historians naïvely remarks, speaking of the fourth and fifth centuries, that there seemed a disinclination for intellectual pursuits. Writers on Church History of bygone ages deliberately falsified and invented facts. Times are altered: to-day it is only their logic that is at fault. The Christian Church in early ages used the power of the sword to crush the intellect. In this respect also times have changed: to-day ministers of religion cautiously insinuate into the common mind the insufficiency of science and human reason generally to sit in judgment on the Word of God; assuming as a matter of fact that their miserable dogmas are really the Word of God.

Roman Christianity was a part of the Byzantine system, from which came both the regulative laws and the spirit of persecution. When ecclesiastical Rome had conquered all rivals, and her popes could exclaim, "We are no mere man, we are God on earth," she had developed all the latent powers and qualities of Christianity. The seed of the papal crop came from Byzantine policy, as that policy had been the outgrowth of still earlier sowing. The nature of that seed we have already seen to some extent. Draper admirably summarizes it in the following passage:—

"Scarcely were the Asclepions closed, the schools of philosophy prohibited, the libraries dispersed or destroyed, learning branded

as magic or punished as treason, philosophers driven into exile, and as a class exterminated, when it became apparent that a void had been created which it was incumbent on the victors to fill. Among the great prelates who was there to stand in the place of those men whose achievements had glorified the human race? Who was to succeed to Archimedes, Hipparchus, Euclid, Herophilus, Eratosthenes? Who to Plato and Aristotle? The quackeries of miracle-cure, shrine-cure, relic-cure, were destined to eclipse the genius of Hippocrates, and nearly two thousand years to intervene between Archimedes and Newton, nearly seventeen hundred between Hipparchus and Kepler. A dismal interval of almost twenty centuries parts Hero, whose first steam-engine revolved in the Serapion, from James Watt, who has revolutionized the industry of the world. What a fearful blank! Yet not a blank, for it had its products—hundreds of patristic folios filled with obsolete speculations, oppressing the shelves of antique libraries, enveloped in dust, and awaiting the worm.

"Never was a more disastrous policy adopted than the Byzantine suppression of profane learning. It is scarcely possible now to realize the mental degradation produced when that system was at its height. Many of the noblest philosophical and scientific works of antiquity disappeared from the language in which they had been written, and were only recovered, for the use of later and better ages, from translations which the Saracens had made into Arabic. The insolent assumption of wisdom by those who held the sword crushed every intellectual aspiration." [1]

This was the first fruit of Christian *power*, and the Papacy was but a natural sequence. But those who think that early Christianity, previous to its alliance with the State in the time of Constantine, was meek and lowly, and contained the seed of future progress, civilization and happiness, know little, I venture to say, of the nature of social growth. From the earliest times the Christian religion was inherently uncompromising, unyielding, intolerant and dogmatic to the last degree. This

[1] *Intellectual Development*, vol. i. p. 387.

spirit was manifested wherever a few Christians were gathered together, and it grew with their strength. Persecution was a logical necessity of their belief, if the soul could not be saved otherwise. Those who would not accept their faith were enemies of God; and to persecute and punish them was for the good of their souls, as well as pleasing to the Deity. What were the sufferings of the worthless body, or a few years of life on earth, compared with the soul's eternal bliss in heaven? These principles were, and I believe still are, inseparable from the Christianity of the Bible. They are in evidence right throughout the history of the religion, and every step in its development was the natural outcome of preceding steps, from the death on the cross to the papal fires.

What was the cause of the Reformation? What was the cause of the death of miracles? What was the cause of the decay and death of Dogmas? What is the cause to-day of empty Churches, declining faith, and dying Christianity? The answer is: *The growth of the spirit of man, informed by knowledge*—a power which has killed in the past, and must continue to destroy in the future, *every form of positive religion* which grows out of the hopes, fears and ignorance of man. Buddhism lives, because it is not a religion, but a philosophical system, founded in abstract generalizations which cannot be disproved, and around which the intellect will always revolve, in the endeavour to solve the perennial problems of life. All that is true in the teachings of Jesus will live, as all that is true in the teachings of every other man will live; but the

Christianity of the Churches is fast dying, because it is founded on a lie, and has been built up on innumerable lies. Truth may take the place of falsehood, but not until the falsehood has been discarded. The teachings of Jesus may yet be a force in the onward progress of man, but they are not what we know as Christianity. It is only by eliminating every dogma and article of the Christian faith, every supernatural idea connected with it, that Christianity can become a vitalizing force ; and then it would be no longer what the world recognises as Christianity ; nor is there one single Christian Church that would recognise or accept it. Church Christianity and the teachings of Christ are as far apart as the poles.

The words of Jesus are echoed in the spirit of our age, while it repudiates with impatience the ascription to him of every element of a supernatural character. To incarnate the power of the Universe in man and nail him up on a cross of wood until he becomes a lifeless mass, and make such a brutal tragedy the foundation of religion, is to outrage all that is best and noblest in human life ; and not until our gross natures have been purged of such a degrading and horrible belief can we appreciate, much less benefit by, the words of the reformer who was so treated. Those who could spread abroad, and those who could believe the falsehoods about his supernatural actions and character would be capable of initiating such a religion as Christianity ; and it was by those very people—the deceivers and the deceived—that the religion was first promulgated. Credulous fanatics they undoubtedly were

who followed immediately after the execution of Jesus. From the tragedy of the cross they imbibed a bitter and undying hatred of the Jews, which was soon extended to all unbelievers in the doctrines that they themselves had embraced; and retribution and vengeance mingled with the very earliest feelings of the first Christians. The brutal atrocities of Rome, then, were the fit and natural fruits of the brutal atrocity of the cross. A lie works downwards to deeper depths of degradation, as a truth works upwards to higher truths and nobler forms.

Catholicism and Protestantism were in harmony on the important subject of learning and freedom of enquiry. The most audacious attempt that was ever made to prevent the accumulation and spread of knowledge, was the institution, in 1559, by Pope Paul IV., of the Congregation of the Index Expurgatorius.

"Its duty is to examine books and manuscripts intended for publication, and to decide whether the people may be permitted to read them; to correct those books, of which the errors are not numerous, and which contain certain useful and salutary truths, so as to bring them into harmony with the doctrines of the Church; to condemn those of which the principles are heretical and pernicious; and to grant the peculiar privilege of perusing heretical books to certain persons. This Congregation, which is sometimes held in presence of the pope, but generally in the palace of the cardinal-president, has a more extensive jurisdiction than that of the Inquisition, as it not only takes cognizance of those books that contain doctrines contrary to the Roman Catholic faith, but of those that concern the duties of morality, the discipline of the Church, the interests of society."

The Protestant division of the Christian Church was in close sympathy with the Catholic, in this

atrocious attempt to suppress the growing spirit of scientific investigation, and prevent all knowledge from reaching the people. The "reformed" Church, had she possessed the power, would have exercised a similar despotism over the minds of her followers; but neither her position nor the spirit of the times was favourable for such an attempt; and she had to content herself with fulminating from the pulpit and elsewhere anathemas against philosophy and science generally, and against individuals specially, who taught anything that was not in accordance with the Bible. In considering this subject it is our duty to remember that the spirit which animated the Church in the sixteenth century has lost little of its rancour, though it cannot be so openly displayed or so virulently indulged in. The Church of England has *had* to move with the times, or she would have ceased to exist years ago. But I ask the impartial free-minded reader to note the general tendency of the clergy on School Boards, in their churches, in their assemblies, in their writings and public utterances, to combat the spread of education, and to repudiate the exercise of reason in all matters bearing upon the dogmas of their Church. The Church of Rome at least has the courage of her ignorance, and openly denounces, without the slightest equivocation, the right of man to use his reason at all on the subject of religion. The action of the Roman Church is the result of a lingering consciousness of past power, to which she still looks back with mournful longing and regret that the glorious days of the Inquisition and the stake have gone for ever.

The Church of England, whilst being deeply tinctured with the spirit of theological arrogance, intolerance and hatred of science, instinctively feels that the days of ecclesiasticism are numbered—that the vitality of the whole system which she represents has departed, together with belief in the superstitious dogmas by which it has been held together; and with the dread of coming dissolution she trims her sails to catch the few favouring breezes that are wafted around her decaying structure. The Church of England, with an instinct as true as that of Rome, knows that the preservation of her interests is incompatible with freedom of enquiry and the spread of knowledge; but she also knows that the spirit of the age will no longer tolerate any meddlesome interference with the progress of science; and she is reduced to the miserable shifts of striving, by all sorts of absurd interpretations, to keep the articles of faith and the contents of the Bible from absolutely contradicting the facts of Nature. A vainer and more hopeless task was never undertaken by mortal men. Defeat, disaster and disgrace have attended her in every contest, without *one single solitary exception.* Compelled to retreat from every position that she has taken up; driven out of every corner in which she has taken refuge, she has now scarcely a foot of standing ground even among her own friends, whilst to the free and intelligent mind she is the greatest anachronism of the age, and little better than a detected fraud and sham.

No wonder that she casts her eyes lovingly and longingly towards her mother of Rome, and draws

as near to her as she dare in the ritualistic practices, and the absurd mummeries that constitute a great part of the Christian religion. Conscious, as many of the Protestant clergy are, of the futility of the attempted compromise of *their* Church, they would fain take refuge in the Church of Rome, where the dominant spirit of ecclesiasticism has a freer hand, and where no State interferes with her action. There is reason to believe, from the evidence of what has been going on for some years around us, as well as on *a priori* grounds, that Rome will yet re-absorb every form of dissent, and that Europe will once again profess only Roman Catholicism. She has ever been a voracious mother who has lived by devouring her own children, and she will continue so to the end. When that time arrives, however, religion will have lost its power and vitality, and will have ceased to influence either the thoughts or the feelings of all, save the most unintelligent portions of society. Moreover, funds for the support of the Church will not be forthcoming ; and in those circumstances I venture to think it requires but little power of prophecy to foretell her doom. Wealth and power have ever been the ruling passion of the Church. If any one doubts this, let him study her history. It is said that she has benefited so much by the progress of knowledge and the commercial spirit of the age, that she is now more inclined to drop thirty-eight of the thirty-nine articles, than to lose one thirty-ninth of her income ; and there is much truth in the sarcasm.

All knowledge is antagonistic to religion ; but the most deadly of all is that of astronomy. Religious

myths cannot live in the light of astronomy. It is, for obvious reasons, the oldest subject of study: it engaged the attention of the leading minds of the ancient world, as we have seen; and it was the greatest disintegrator and destroyer of the religions of those days. Historically and intellectually it is by far the most important of all the sciences, as the friend of man in his long contest with the dark, superstitious side of the human mind. All religions are superstitious, all are false, and all have had to give way before the advancing disclosures of the true mechanism of the heavens. How, for example, could a religion continue to live, which taught that the earth was the largest and most important body of the Universe, and that at a short distance above it the controlling powers resided, whose time was occupied in the consideration and conduct of the affairs of man? For astronomy and Olympus to exist in the same mind was a moral impossibility. All Christians to-day will readily acknowledge this; but why will they not be equally candid about the Bible? The Olympian divinities and those of the Bible have a like origin: they have all sprung from the vain attempts of man in unenlightened ages to account for himself and his surroundings; and astronomy and the Bible are as incompatible as astronomy and Olympus.

The Bible is, in many ways, a beautiful work, and worthy of preservation, as are all the utterances of the human mind which portray the struggles, the hopes and fears, the successes and failures of men in all ages; but it is time that it was divested of the character of a special divine message to the world.

It is a human product, and so far from being a criterion of truth, it is falsified by every science, and indeed by the whole body of positive knowledge. The mental friction engendered by the continuous advance of thought is slowly and gradually wearing away the supernatural character of the Bible; and the time will surely come when the lingering remnants will entirely cease to influence our lives. But meanwhile we are individually passing away; and as truth is alone the lamp which can light us on our way here, it is our most sacred duty to seek it, acknowledge it, and hold on to it wherever found.

Most readers are acquainted with the history of the conflict between religion and astronomy. Copernicus, Kepler, and Galileo, three of the most illustrious men of the Renaissance, and indeed we might almost say of all times, very nearly escaped being burnt alive by the Christians for their grand and immortal astronomical discoveries. Galileo was seized and compelled, under pain of being tortured and then burned, to recant his "heresies" on his knees before the brutal and ignorant ecclesiastics of the Roman Church. When the sublime old man rose from his humiliating posture, and still more humiliating recantation, before the holy ruffians, he is said to have passionately re-affirmed the truth that the earth does move round the sun. This debased, ignorant, and brutal power, which presumes to call itself the mediator between god and man, would, had it dared, have crushed and mangled the astronomer's body, and then burnt him alive at the stake. But the power of the Church was waning, and she dared not thus outrage the consciences of men as she had

done in the past, however acceptable to the Christian's god of blood such diabolical sacrifices might be.

Galileo was accused of imposture, blasphemy, heresy, atheism, and denounced as an enemy to god and man. With his hand on the Bible he was made to curse and abjure the doctrine that the earth moves round the sun, which the sapient churchmen said was contrary to the holy scriptures, and therefore a blasphemous falsehood. This venerable and illustrious man was then thrown into prison, where he was kept for sixteen years, until he died, and was treated in the most shameful manner. In this contest between ignorance and knowledge the Protestant Church was in sympathy with the former; but not having the power to imprison, she stirred up the hatred of the people against all who strove to enlarge the boundaries of knowledge by the study of the laws of Nature. Let it not be forgotten that one and all of the numerous sects into which Protestantism is split up have from the earliest times maintained a bitter and undying hatred of every discovery that has detected the falsehoods of the Bible; and to this day there survives in every church in England a retrograde force, which strives with all the energy of despair to prevent the spread of higher knowledge amongst the people.

We need not repeat again the oft-told history of the refutation of the Bible by science, how in every particular it has been found to be false. The acrobats of the Church have pretty nearly exhausted their powers of contortion in twisting scriptural language into compliance with scientific

truth ; but all to no purpose; the breach has widened to such an extent that the futility of the task is now evident, even to the ecclesiastical intellect. Geology gave the death-blow to the Bible as a criterion of scientific truth. Poor Hugh Miller blew his brains out because he could not reconcile his geological researches with the Bible. Had he lived a few years later, the companionship of sympathy with his views would have preserved the balance of his mind. In the days of her power the Church forced the intellect into compliance with the Bible ; in the days of her weakness she strives to force the Bible into compliance with the intellect ; and in both she has signally and ignominiously failed, as every attempt to perpetuate a lie must sooner or later end in defeat and disgrace.

What is the position of the Christian Church, then, to-day ? We have seen how she stands at the bar of history. She has thrown back the civilized part of the world at least a thousand years ; and has thereby prevented that social organic growth which would ere this have solved those economic difficulties which are the cause of the starvation and misery of millions of helpless men, women and children throughout Europe and America at the present time. All enlightened students of social growth know that in time an organization will be evolved in which poverty, and all the crimes and vices which spring therefrom, will no longer afflict the world. In the present stage of the social organism every man outside the ranks of labour is a criminal, foredoomed as such by the necessities of his position as a social unit ; and the

judge upon the bench, and the lordly bishop of the Church are greater criminals than the poor wretch who is sentenced to a month's imprisonment for stealing a loaf of bread with which to abate, it may be, the sufferings of a starving family: for while he steals a part only of that which his labour and that of his class have produced, the bishop and the judge devour wholesale that which no labour of theirs has helped to bring into existence. The virtuous wives of the upper classes are deeper partakers of vice than the poor outcasts that nightly prowl the streets in search of bread; and yet they are as helpless to escape the moral contagion of their own lives as they are to reform those of their fallen sisters. The present stage of the social system is answerable for both, and the Church is answerable for the backward condition of the system.

What are the foundations on which Christian Churches of all denominations to-day take their stand? What are their aims and pretensions? The Established Church still holds on tenaciously to all the exploded myths of the Christian religion, and secure in the enjoyment of her immense revenues justifies her existence on this ground alone. The numerous sects that have separated from her still retain the principal of those myths, many of which are in prominent evidence, while others are judiciously kept more or less in the background, in deference to the growing impatience of the public intelligence. They tentatively feel the public pulse, and opportunely insinuate the impression that they are the mediators between man and Jesus and his father, who are listening and waiting in heaven

for the pious supplications of the poor starving wretches, that they may forgive them their "sins." Magnanimous father and son! Joined with these two in holy grief are Mary, their mother, and her husband, the Holy Ghost,[1] according to the teaching of one division of the Christian Church. Conscious of the still widening gulf between the poor and the rich, and the evils that afflict society generally, the seceders from the Established Church constitute themselves the teachers of various ethical systems, by which poverty and all the other evils are to be remedied. History repeats itself, and as the Mother Church of old sent out her staff of commercial travellers for the sale of her wares, the indulgences, so do these, her children, compete with one another for public favour, in the recognition and purchase of the spiritual wares which they have to offer. Each contains within itself the only reliable salvation-remedy by which heaven can be reached and hell escaped. In season and out of season they push their trade, and though it produces but a scanty income to many, it brings a certain consideration and social recognition, so dear to the heart of most. Competition is as keen in the soul-saving business as it is in all other branches of our industrial system; and to secure the means of livelihood in a world in which the struggle becomes greater as time goes on, is of the greatest importance to all of us.

[1] In the palmy days, when the Church was the greatest show on earth, she was so fortunate as to procure a *finger* of the Holy Ghost, by the exhibition of which enormous sums were netted. What would not Barnum have given for such a precious relic!

The lordly Church of England is exempt from the struggles of her humbler co-"workers," having feathered her nest well in times gone by, when religious fervour, the hope of heaven and the fear of hell were more effective in opening the purse-strings than they are in these degenerate days. There is still, however, a considerable amount of sanctity and pious aroma surrounding the sacred persons of archbishops and bishops, who spend their lives in affluence and comfort among the great and wealthy; while the lesser lights of the principal soul-saving establishment are welcome additions to every afternoon tea among all the socially well-placed ladies of their congregations. Within the sacred precincts of this heaven-sent institution it is pleasant to reflect that the cries and the fierce struggles of starving men and despairing women, of doubting minds and racked souls, can find no echo to disturb the cheerful serenity of the calm and happy life therein. Contented and satisfied with their lot, they are anxious to disseminate those inestimable blessings by a weekly exhortation to all to be satisfied with the position in which god has placed them, assuring the suffering poor that if they believe in the godhead of the young carpenter, pay due respect to their betters, and bear uncomplainingly the burdens of poverty and misery which god has placed upon them, he will reward them hereafter by an eternal life in a mansion of gold in heaven, where they will enjoy the indescribable felicity of singing without end, in the presence of god and his son, the praises of the greatness and goodness of their nature. Truly it is a sublime existence to

look forward to, and one which should make us not only bear resignedly all the evils that may befall us, but even induce us to go out of our way to increase our burdens, in the hope of being doubly secure of the promised heaven. And yet the wretches are not satisfied! Well may the Church lament the perversity and wickedness of human nature!

The foundation of the Christian religion, and therefore of Christian Churches of all denominations, is the crucifixion of the deity for the salvation of a portion of the human race. But the fact alone of his having permitted man to nail him up on a wooden cross and so compass his death, is not in itself sufficient to save the entire race. One of the conditions of salvation is to believe in certain things —that he was really god, that he rose from the grave in which they had deposited his dead body, and went straight up to heaven; and other beliefs of kindred character. Now supposing we could bring ourselves to accept such an astounding and unreasonable event as this, the first thing that would strike us as strange and incongruous is the period in the life of the human race when the deity elected to suffer death at the hands of his creatures, for the eternal salvation of believers. Man had been on the earth thousands of years, and untold millions of his race had lived and died, and presumably gone to their account before the deity thought of this expedient for their salvation. As far as we can gather from inference, the death of Jesus does not expiate the sins of all those millions who preceded him, nor of a large portion of those who come after him; for millions never heard of him, and millions

do not believe in him at all. Moreover, it is a known fact that man has no freedom over his belief; he cannot force it one way or the other. Anything that does not approve itself to a man's reason is beyond his power of belief. The whole story of the godhead of Jesus and the atonement does not recommend itself to my reason, and is utterly beyond my power of belief. Am I to be damned eternally then for my inability to control my belief? to be sent to hell for ever and ever, to burn everlastingly in dreadful agony, because god has deprived me of the faculty of freedom of belief? Is there a man bold enough to answer in the affirmative?

In the early ages the tale was treated with derisive contempt, and no intelligent man or woman would give it a moment's consideration. It found acceptance among the barbarians who formed the early nations of Europe, and it was spread by the sword of Constantine among peoples whose unenlightened minds would have accepted any tale, even grosser, if that were possible, than this of the crucified deity. Throughout the dark ages every now and again a protest was uttered against the blasphemous Christian assumption, but the dungeon or stake quickly silenced the protesters. When, however, the human mind gathered sufficient strength to burst the bonds of ecclesiastical power, passionate exclamations arose in all directions against the acceptance of the horrible tragedy, as the hope of a future life of happiness. Apart from the incongruity and absurdity of the whole thing, there was something in the very idea inexpressibly shocking and revolting to a fine nature; and skepticism grew as time went on. Many men,

who without the slightest hesitation rejected the tale, nevertheless gave it public countenance, in the belief that the majority of people must have some form of creed. And down to the present day thousands of men and women conform to the public observances of Christianity under similar belief, who no more accept the outrageous tale than openly professed infidels do.

The rejection of the whole of the supernatural pretensions of Christianity is not now confined to the leading thinkers, it has filtered down through the classes, and has reached the lowest strata. Among the middle classes it is still considered "respectable" to attend church. But the workers and the intellectual of all grades have long given up church going; and the subject has completely passed out of their lives. Suburban villadom still turns out in its best array every Sunday, and solemnly, with becoming decorum, goes through a perfunctory service, from which all meaning and life have departed. But that voracious monster, Time, sits near at hand, and soon even the outward piety of respectable villadom will fall a prey to him. The smug religiosity even of that dense mass of superfine respectability, the tufthunters and toadies of modern life, will yet be reached by those everlasting wheels which grind so slowly, but yet so surely.

Seeing the condition of public thought in regard to Christianity, it is perhaps no great forestalment of the truth to assume that its supernatural character is now disposed of. After nineteen hundred years the impenetrable veil again encloses us, and the aphorism of the Greek thinkers is once again preg-

nant with meaning. The so-called revelations, as well as the incarnation of the deity, have gone the way of all other religious myths; and the heavens are again silent to all man's passionate appeals. The eternal problems, "Whence came we? What are we? Whither are we going?" again confront us. No mortal man has ever lifted the dark veil, and no voice has ever reached us from out the depths of infinite space, to enlighten our ignorance of the solemn mystery. We come and we go—we know not whence, and we know not whither. The past is dark, and the future *may* be so, and human life a purposeless phase in the growth and decay of the world, as the growth and decay of the world is a purposeless phase in the wide sphere of universal being. Eternal darkness wraps us in the past, and eternal darkness may wrap us in the future, when our brief and unquiet day is ended. And surely it is sweet to look forward to that perfect peace and unbroken rest which absolute quiescence alone can give—re-absorption in great mother Nature; no more weary longing, no more sorrow, no more *feeling*. No imaginable future life can offer such exemption from pain; and surely, then, none can be so desirable.

Since no message has ever reached us from any power outside of man, and confining the Christian Church to the human circle alone, we have to deal with her work as a mere human product; and as every institution must be judged by its fruits, *i.e.* its utility to man, the question for us is, What useful functions does the Church perform? We have seen how desolating and destructive her influence and power have been in the past; and we may note how

she is now cautiously bidding for public support by insinuating that the life and example of Jesus were intended rather to guide us to our well-being in this life than to secure our eternal happiness hereafter; and she gives accordingly a *little* attention to the temporal concerns of the people. But while this interpretation of the life of Jesus is in accordance with the progressive spirit of the age, it is practically and theoretically an abandonment of the foundation of the Christian religion—a repudiation of the divinity of Jesus, of the atonement, of heaven and hell, and, inferentially, of the immortality of the soul, so far as the promises of "the Christ" are concerned. The Church would, of course, indignantly disclaim any intention of abandoning the doctrines by which Christianity has hitherto been contradistinguished from other religions; and, as a body, she will for some time to come hold on to every article of the faith. But it is none the less true that the tendency of the public work of the most intelligent of her clergymen is to keep in the background, as much as possible, in deference to the increasing intelligence of the people, the supernatural and dogmatic elements of Christianity.

The aristocracy and the great middle classes have each, in alliance with the Church, had their day of power; that of the workers is near at hand, and the better class of the clergy plainly perceive this. They know that the working people are no longer content to be the asses and drudges of society, and suffer all sorts of misery and starvation for the benefit of their "betters," in the hope of receiving their reward hereafter in heaven. Heaven has receded from their

view, hell has become a meaningless term; and the clergyman who seeks still further to conjure with these former objects of hope and fear finds his avocation gone. Inside the walls of his church they may still be softly whispered to well-dressed congregations; but in the homes of the rising power they are no longer tolerated, and will not be accepted in lieu of that which the workers know to be their just rights. It is the recognition of this fact, together with better feelings, and more accurate knowledge of the unsubstantial character of their dogmas, which has induced several well-meaning, hard-working clergymen to interest themselves in the social condition of the poor. But for want of knowledge of the great laws of social progress their efforts at the best are only temporary, and in many cases rather obstructive than otherwise. They do not understand that the social organism is developing, and that society is undergoing a transformation, which, when the next phase is completed, will probably have eliminated both poverty and riches from amongst us. Their sole efforts are directed towards begging from the rich and well-to-do, not in helping the working people to hasten the growth of the great revolution which is silently working its way in our midst. I honour them for their efforts, notwithstanding; but the most profuse charity is but a drop in the vast ocean of poverty; and the best friend of the poor is he who seconds the efforts of those who endeavour to legislate for the transformation of obstructive institutions, without at the same time relaxing his efforts in the direction of temporary relief.

The Church, as an institution, has in theory

abandoned none of her supernatural pretensions, though in practice she is forced into compliance with the spirit of her surroundings, which has abandoned them. Her pretensions are false, and therefore all the teaching which is built upon them is false likewise. In politics the Church is conservative and reactionary, and incompatible with progress. The bishops are almost invariably found among the opponents of every great measure of public utility; and they have never, so far as I know, protested against the most unjust wars that this country has ever been engaged in. Their power as legislators, their social influence, and their sympathies are all with the rich, on every question in which the interests of that class seem to clash with those of the working classes. As a body they are unacquainted with the great currents of modern thought, and take no interest in the labour movement, except to feebly oppose it. They pass their lives among the dry bones of defunct scholasticism, and for aught the world knows they might be the fossilized remains of the early fathers. They live in an atmosphere of their own; in the modern world they have no place, so far as its busy moral or material life is concerned. When the chiefs of a great institution become mere moribund figureheads, that institution is fast on its way to extinction.

Apart from the efforts which a few of the clergy are making to identify the Church with social and political movements, what are her functions, and what is the value of her labours? The sum total of the Church service is an appeal to the supernatural to confer upon us certain favours, which implies the

existence of a personal being similarly constituted to ourselves, who superintends the affairs of this world. The Church prays to this being for the recovery of the sick, for the health of certain highly placed families, for rain and fine weather, for success in war, for the defeat of all our enemies, and a variety of other blessings, all of which would necessitate, if complied with, an incessant personal interference with the laws of Nature. Now if science has proved anything, established one single fact, it is that every natural effect has a natural cause, that all Nature acts under irresistible and immutable laws, and that all the prayers of the whole human race would be utterly powerless to influence, in ever so slight a degree, the operation of a single law of Nature, or to make any cause produce either more or less than its natural effect. What then shall we say of the value of an institution, intellectually, morally, or materially, to the head of which we pay a salary of £15,000 a year, whose only duty to the public consists in a weekly performance of an utterly meaningless service? Does any one believe for one moment that rain will descend because the Church prays for it? or that our soldiers will win battles because the Church importunes god for his assistance—the god who was beaten because the enemy had chariots of iron? Whatever conception people may have of god, I ask, is there one single intelligent man or woman who really believes that the laws of Nature will be set aside in answer to the prayers of any Church, in favour of any man or any number of men? Napoleon discovered that god was on the side of great battalions.

I do not know how many "Reverends" there are in England who are engaged in this business, but there are probably among all the churches and chapels not fewer than one hundred thousand, ranging in salary from £15,000 a year, down to a few pounds. Many of the heads of the State Church receive, for this valuable performance of superintending the army of useless importuners of the deity, £4,000 a year. Intellectually, the system is simply an absurdity to the intelligent, and retrogressive to all others. Morally, it is demoralising, since it is the conscious support of falsehood and fraud. Materially, it is a wanton waste of national wealth, for all these men and their families have to be supported by the labour of the workers. We are ready enough to laugh at, and condemn the medicine-man of savage races; but wherein does he differ from the modern priest? They both deal in the supernatural as their principal, and indeed only, stock-in-trade; they both pray to their gods for special favours, and for so doing they are supported by the rest of the community. View the question as we may, the parallel is so close that it is impossible to find any material distinction between the two. If institutions could be made and unmade straight off, the squandering of millions a year for the support of a hundred thousand "medicine-men" would be a standing disgrace to this enlightened age.

Accepting the views of human life which evolution irresistibly forces upon us, and rejecting all ecclesiastical claim to supernatural knowledge in regard to a future existence, we are brought to consider our earthly conditions as those which alone can have

any value for us, since upon them depends, so far as we can know, the sum total of our happiness or misery. Every item in this life is an all-important fact to us—*that we do know*; but of the future, no intelligence that has ever appeared on this earth, down to the present time, has been able to inform us. It is, moreover, certain that we do not possess the power of freewill, but that all our thoughts and actions are determined by preceding conditions. In the mental as in the material world, cause and effect rule us. If we could trace it, we should find that every thought is linked to some preceding thought, by which it was necessitated; every action is the result of preponderating motives; and what we call our *will* is apparently nothing more than our *consciousness* of our physical and mental activities. If the will is free, the basis of scientific reasoning, that for every effect there is an efficient cause, is false; but we know that it is not false, as certainly as we know that we exist. In the chain of cause and effect there is no beginning and no end; and all that appertains to human life is held, like everything else, in the universal nexus. Paradoxical as it may seem, freedom of the will is only conceivable on the inconceivable postulate of infinite, unconditioned, absolute existence; and certainly no man will claim for himself such existence.

Inasmuch as consciousness and will appear to be identical, it would seem that the recognition of consciousness is the same as the recognition of will; but the recognition of consciousness would necessitate another conscious self within us; and therefore the recognition of the will would also necessitate the

existence of another consciousness, which is absurd. In reality we have *no will*, free or otherwise; and this brings us to the insoluble problem of what consciousness is in itself. We know the physical conditions under which it comes and goes, and there we reach the limit of our knowledge.

Whilst, however, we may know that the will is *never* free, we must nevertheless act in all our relations on the assumption that it is free. Man is, in truth, never a free agent, either in regard to his personal conduct or as a unit in the social organism. He is a mere automaton; and though the welfare of society, as a whole, requires that we should make him responsible for his actions—punish him for his bad, and reward him for his good—that responsibility can only be justly exacted from him by society, of which he is a member. If he is compelled to act as he does by the laws of his being, it would manifestly be most unjust to punish him hereafter for doing that which the laws of his nature force him to do. Moreover, outside the exigencies and requirements of human society, good and bad, crime, sin, and immorality have absolutely no meaning. All human conduct is relative to the welfare of society and the individual. "Sin" is a fiction of the Church, and as meaningless as all her other fictions. Crime is an offence against laws which man makes in the interests of the body politic. We can commit no sin or crime against god; the idea is simply absurd; nor can we "blaspheme" against the Unknown Power. All these notions arise from the false, anthropomorphic conceptions of imperfectly educated churchmen. They are a part of the stock-

in-trade of the religious bodies, if I may say so, as a matter of fact, without giving offence.

If we thus eliminate from our lives all hope and fear of future rewards and punishments, and discard the teaching of theology as false and useless in our onward progress, however necessary it may have been in the past, shall we be gainers or losers thereby? And this is the great and important question for us. Religion, in the sense of the ever-present insoluble problems of our lives and surroundings, is a permanent and indestructible element in our nature, which can never die; but religion in the sense in which it has hitherto played so great a part in our thoughts and emotions—*i.e.* dogmatic theology and the teachings of the Churches—I believe to be unsuited to our further intellectual and moral development, and destructive to the growth, in volume and quality, of that beautiful human love and sympathy, which enriches our nature, sustains us under the many trials inseparable from our lot, and preserves the balance between the emotions and the intellect, which is one of the greatest and most important of ethical problems.

If the enormous amount of human love, sympathy, and emotion which has been expended on an imaginary personal god, away in the unknown, limitless depths of space, had been confined within the circle of human existence, it would have given us a richer and fuller life than we now possess. Human nature has been made thin, poor, and weak, by having had its noblest qualities frittered away on a shadowy being, an idol of the imagination, from whom no responsive motion of love and sympathy has ever

been reflected back. All the forced stilted love and yearning of the heart has been so much wasted energy, without any compensating equivalent; it has vanished into the unresponsive void, never to return. The love that we bestow upon our fellow creatures comes back to us in twofold measure, and it blesses him that gives and him that receives; but the forced feeing that we bestow upon our man-made god, and which we call love, is not only unnatural and unreal, but, by depriving our nature of so much of our best emotions, it has a deteriorating and demoralizing effect. Our affections can only be healthily real when they are given to creatures of flesh and blood. I believe this to be a most important truth in the consideration of religion. If the object of our emotions is an unknown being, requiring for our realization of him an effort of the intellect, he can call forth no true love; nor can our worship of such an imaginary being quicken the growth of the moral conscience.

The truth of this is not a matter of mere speculation, it is writ large over the whole of the history of Christianity. It was the worship of an imaginary personal god that caused the early Christians to commit the wanton acts of razing to the ground many of the most beautiful buildings of the ancient world, because they were the scenes of pagan rites. It was for love of the same god that the armies of the Crusaders poured into Palestine and committed such atrocities as the sun never before shone upon. It was the same supernatural and inhuman "love" that filled the synagogues of the Jews with that unhappy people, and then setting fire to them, drowned

the agonising cries of the victims with loud prayers that their souls might be sent to a fiercer fire in hell. It was all for love of the same being that man tortured his fellow creatures in the dark dungeons of the Inquisition, and then ended their sufferings by burning them at the stake. It was for love of the Protestant's god that Calvin, the Protestant reformer, and those who acted with him, roasted to death Servetus over a "slow" fire. It is for love of god that Christian Churches persistently oppose the spread of education amongst the people, which is the only means by which their lives can be made happier and better. May we not say then with a firm faith in the interests of moral conscience, virtue, happiness, progress, and all that is highest and best in human nature, it is time that this monstrous love of an inconceivable and impossible god were driven from the life of man, so that he may in future lift up his heart, strong in the purer light of a higher morality, and a more ennobling *human* love, secure in the firm conviction that whatever may be his fate hereafter, his whole duty in *this* life consists in love, sympathy, and service to his fellow man?

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